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AFML-TR-64-399
Volume II

FATIGUE BEHAVIOR OF SHEET MATERIALS FOR THE SUPERSONIC TRANSPORT

Volume II - Static Test Data, S-N Test Data and S-N Diagrams

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Lockheed-California Company

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FOREWORD

The final Technical Report covering all the work performed under Exhibit B of Contract No. AF33(657)-11460 is divided into two volumes as follows.

Volume I - Summary and Analysis of Fatigue and Static Test Data

Volume II - Static Test Data, S-N Test Data and S-N Diagrams

This work was conducted at the Lockheed-California Company, a division of the Lockheed Aircraft Corporation. The time period covered by this report is May 1, 1963 to December 31, 1964. The manuscript was released by the authors in December 1964 for publication as an RTD technical report.

The work was administered under the direction of the Research and Technology Division of the United States Air Force by Lt. D. C. LaGrone and Mr. C.L. Harmsworth, Project Engineers.

At the Lockheed-California Company, this program was one of a group of three supersonic transport research and development programs under the administrative direction of R. E. Reedy, Assistant to SST General Manager; R. E. Heppe, Chief Engineer - SST; and J. Hong, Assistant Chief Engineer - SST.

Project Manager for this project was M. A. Melcon, Advanced Materials and Methods Department Manager, assisted by Principal Investigator A. J. McCulloch. Mr. L. Young and Mr. L. Bakow assisted in the technical analysis and preparation of the final report.

Design and operation of test equipment was the responsibility of R. H. Wells, Head, Structures Test Group, assisted by R. J. Cox, and R. L. Lowe. W. R. Brewer was responsible for design and installation of the load control and load cycling equipment. J. A. Knotts, Jr., and P. S. Starrett were responsible for design and fabrication of the temperature cycling equipment.

This technical report has been reviewed and is approved.

D.A. Shinn
Chief, Materials Information Branch
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ABSTRACT

As required by the contract, static and constant load amplitude fatigue test data were generated for .050 inch 8-1-1 titanium (duplex-annealed), .025 inch PH14-8Mo (SRH 1050), and .025 inch INCO 718 (20% cold rolled and aged at 1275°F). Plain, center notched, and fusion welded specimens were tested at room temperature, 400°F, and 650°F. Specimens with no prior exposure, and specimens with prior exposure to a constant stress at 400°F or 650°F for 100, 1000, or 5000 hours were tested. The constant stress during exposure of the titanium specimens was 25,000 psi and the corresponding stress for the steel and nickel base alloys was 40,000 psi.

For convenience in the use of this basic information, the static and fatigue test data, plots of static strengths and elongation versus test temperature, S-N curves for test stress range ratios of R = 0.1 and R = - 0.5, and S-N diagrams derived from the curves are presented in this volume.

TABLE OF CONTENTS

SECTION 1

INTRODUCTION

The test program described in detail in Volume I of the report was designed to investigate the fatigue properties of .050 inch 8-1-1 titanium (duplex-annealed), 0.25 inch PH14-8Mo (SRH 1050), and .025 inch INCO 718 (20% cold rolled and aged at 1275°F), for possible structural applications in the supersonic transport. In addition to the fatigue data, static strength data were also generated.

A substantial part of the test program involved the generation of data in constant load amplitude fatigue tests. These tests were carried out at stress ratios of R = 0.1 and R = - 0.5 and S-N curves were defined. To define these curves, the test data were first plotted in terms of log stress versus log cycles and straight lines were fitted to the mean values in the high stress-low cycle range of data and also in the low stress-high cycle range. Semilog representations of these lines were then faired to produce the conventional S-N curves. A statistical analysis of the test data was not made. The relatively small number of data points for each of the large number of combinations of test variables did not permit the definition of statistically significant results with a reasonable degree of confidence. A discussion of this aspect of the definition of S-N curves is presented in Appendix V of Volume I. The S-N curves were then used in the derivation of S-N diagrams. For convenience in the use of the voluminous basic data, they are presented in this second volume of the report.

SECTION 2

SUMMARY

Static and constant load amplitude (S-N) tests of .050 inch 8-1-1 titanium (duplex-annealed), .025 inch PH14-8Mo (SRH 1050), and .025 inch INCO 718 (20% cold rolled and aged at 1275°F) provided a substantial part of the test data generated under the contract. For convenience in the use of this information, it is presented in tabular and graphical form in this volume of the report. For rapid location of particular information, Table 1 locates the tables and plots of static tensile data, and Tables 2, 3 and 4 locate the tables, plots of S-N data, and the S-N diagrams derived from test data. In addition, Table 5 presents the static tensile data obtained to check material quality before initiation of the main test program.

TABLE 1 LOCATIONS OF STATIC STRENGTH DATA FOR TESTS PERFORMED AT ROOM TEMPERATURE, 400 AND 650° F

MATERIAL	PRIOR SOAK			F_{tu}, F_{ty}, and ELONGATION		F_{tu}	
				PLAIN SPECIMENS		FUSION-WELDED AND PLANISHED SPECIMENS	
	STRESS (ksi)	TEMP. (°F)	TIME (hr)	TABLE	FIGURE	TABLE	FIGURE
8-1-1 Titanium, Duplex Annealed	—	—	—	5 & 6	1	9	22
	25	400	100	6	2	9	23
	25	400	1000	6	3	9	24
	25	400	5000	6	4	9	25
	25	650	100	6	5	9	26
	25	650	1000	6	6	9	27
	25	650	5000	6	7	9	28
PH14-8Mo (SRH 1050) Stainless Steel	—	—	—	5 & 7	8	9	29
	40	400	100	7	9	9	30
	40	400	1000	7	10	9	31
	40	400	5000	7	11	9	32
	40	650	100	7	12	9	33
	40	650	1000	7	13	9	34
	40	650	5000	7	14	9	35
INCO 718 20% Cold Rolled, Aged at 1275°F	—	—	—	5 & 8	15	9	36
	40	400	100	8	16	9	37
	40	400	1000	8	17	9	38
	40	400	5000	8	18	9	39
	40	650	100	8	19	9	40
	40	650	1000	8	20	9	41
	40	650	5000	8	21	9	42

TABLE 2 LOCATIONS OF CONSTANT AMPLITUDE FATIGUE TEST DATA FOR CENTER-NOTCHED SPECIMENS

MATERIAL	PRIOR SOAK			TESTED AT ROOM TEMP.			TESTED AT 400°F			TESTED AT 650°F		
	STRESS (ksi)	TEMP (°F)	TIME (hr)	S-N DATA IN TABLE	S-N CURVES IN FIGURE	S-N DIAGRAM IN FIGURE	S-N DATA IN TABLE	S-N CURVES IN FIGURE	S-N DIAGRAM IN FIGURE	S-N DATA IN TABLE	S-N CURVES IN FIGURE	S-N DIAGRAM IN FIGURE
8-1-1 Titanium Duplex Annealed	—	—	—	10	43	232	11	44	239	12	45	246
	25	400	100	13	46	233	14	47	240	15	48	247
	25	400	1000	16	49	234	17	50	241	18	51	248
	25	400	5000	19	52	235	20	53	242	21	54	249
	25	650	100	22	55	236	23	56	243	24	57	250
	25	650	1000	25	58	237	26	59	244	27	60	251
	25	650	5000	28	61	238	29	62	245	30	63	252
PH14-8Mo (SRH 1050) Stainless Steel	—	—	—	73	106	295	74	107	302	75	108	309
	40	400	100	76	109	296	77	110	303	78	111	310
	40	400	1000	79	112	297	80	113	304	81	114	311
	40	400	5000	82	115	298	83	116	305	84	117	312
	40	650	100	85	118	299	86	119	306	87	120	313
	40	650	1000	88	121	300	89	122	307	90	123	314
	40	650	5000	91	124	301	92	125	308	93	126	315
INCO 718 20% Cold Rolled, Aged at 1275°F	—	—	—	136	169	358	137	170	365	138	171	372
	40	400	100	139	172	359	140	173	366	141	174	373
	40	400	1000	142	175	360	143	176	367	144	177	374
	40	400	5000	145	178	361	146	179	368	147	180	375
	40	650	100	148	181	362	149	182	369	150	182	376
	40	650	1000	151	184	363	152	185	370	153	186	377
	40	650	5000	154	187	364	155	188	371	156	189	378

TABLE 3 LOCATIONS OF CONSTANT AMPLITUDE FATIGUE TEST DATA FOR UNNOTCHED SPECIMENS

MATERIAL	PRIOR SOAK			TESTED AT ROOM TEMP.			TESTED AT 400°F			TESTED AT 650°F		
	STRESS (ksi)	TEMP (°F)	TIME (hr)	S-N DATA IN TABLE	S-N CURVES IN FIGURE	S-N DIAGRAM IN FIGURE	S-N DATA IN TABLE	S-N CURVES IN FIGURE	S-N DIAGRAM IN FIGURE	S-N DATA IN TABLE	S-N CURVES IN FIGURE	S-N DIAGRAM IN FIGURE
8-1-1 Titanium Duplex Annealed	—	—	—	31	64	253	32	65	260	33	66	267
	25	400	100	34	67	254	35	68	261	36	69	268
	25	400	1000	37	70	255	38	71	262	39	72	269
	25	400	5000	40	73	256	41	74	263	42	75	270
	25	650	100	43	76	257	44	77	264	45	78	271
	25	650	1000	46	79	258	47	80	265	48	81	272
	25	650	5000	49	82	259	50	83	266	51	84	273
PH14-8Mo (SRH1050) Stainless Steel	—	—	—	94	127	316	95	128	323	96	129	330
	40	400	100	97	130	317	98	131	324	99	132	331
	40	400	1000	100	133	318	101	134	325	102	135	332
	40	400	5000	103	136	319	104	137	326	105	138	333
	40	650	100	106	139	320	107	140	327	108	141	334
	40	650	1000	109	142	321	110	143	328	111	144	335
	40	650	5000	112	145	322	113	146	329	114	147	336
INCO 718 20% Cold Rolled, Aged at 1275°F	—	—	—	157	190	379	158	191	386	159	192	393
	40	400	100	160	193	380	161	194	387	162	195	394
	40	400	1000	163	196	381	164	197	388	165	198	395
	40	400	5000	166	199	382	167	200	389	168	201	396
	40	650	100	169	202	383	170	203	390	171	204	397
	40	650	1000	172	205	384	173	206	391	174	207	398
	40	650	5000	175	208	385	176	209	392	177	210	399

TABLE 4 LOCATIONS OF CONSTANT AMPLITUDE FATIGUE TEST DATA FOR FUSION-WELDED & PLANISHED SPECIMENS

MATERIAL	PRIOR SOAK			TESTED AT ROOM TEMP.			TESTED AT 400°F			TESTED AT 650°F		
	STRESS (ksi)	TEMP (°F)	TIME (hr)	S-N DATA IN TABLE	S-N CURVES IN FIGURE	S-N DIAGRAM IN FIGURE	S-N DATA IN TABLE	S-N CURVES IN FIGURE	S-N DIAGRAM IN FIGURE	S-N DATA IN TABLE	S-N CURVES IN FIGURE	S-N DIAGRAM IN FIGURE
8-1-1 Titanium Duplex Annealed	—	—	—	52	85	274	53	86	281	54	87	288
	25	400	100	55	88	275	56	89	282	57	90	289
	25	400	1000	58	91	276	59	92	283	60	93	290
	25	400	5000	61	94	277	62	95	284	63	96	291
	25	650	100	64	97	278	65	98	285	66	99	292
	25	650	1000	67	100	279	68	101	286	69	102	293
	25	650	5000	70	103	280	71	104	287	72	105	294
PH14-8Mo (SRH1050) Stainless Steel	—	—	—	115	148	337	116	149	344	117	150	351
	40	400	100	118	151	338	119	152	345	120	153	352
	40	400	1000	121	154	339	122	155	346	123	156	353
	40	400	5000	124	157	340	125	158	347	126	159	354
	40	650	100	127	160	341	128	161	348	129	162	355
	40	650	1000	130	163	342	131	164	349	132	165	356
	40	650	5000	133	166	343	134	167	350	135	168	357
INCO 718 20% Cold Rolled, Aged at 1275°F	—	—	—	178	211	400	179	212	407	180	213	414
	40	400	100	181	214	401	182	215	408	183	216	415
	40	400	1000	184	217	402	185	218	409	186	219	416
	40	400	5000	187	220	403	188	221	410	189	222	417
	40	650	100	190	223	404	191	224	411	192	225	418
	40	650	1000	193	226	405	194	227	412	195	228	419
	40	650	5000	196	229	406	197	230	413	198	231	420

SECTION 3

STATIC TEST DATA

The locations of the tabulated and plotted static test data presented in this section are listed in Table 1.

TABLE 5 STATIC TEST DATA AT ROOM TEMPERATURE

INITIAL MATERIAL INSPECTION TESTS

PLAIN SPECIMENS

MATERIAL	GAGE (NOMINAL) (inches)	SHEET NO.	LONGITUDINAL GRAIN F_{tu} (ksi)	F_{ty} (ksi)	e* (%)	TRANSVERSE GRAIN F_{tu} (ksi)	F_{ty} (ksi)	e* (%)
8-1-1 Ti Duplex Annealed	.050	1	146.7	135.0	15	148.0	136.1	15
		2	150.8	140.2	15	148.0	136.2	15
		3	144.0	131.7	14	146.5	135.6	15
		4	144.7	133.2	15	148.0	136.7	15
		5	144.8	135.3	14	148.2	136.6	15
		6	149.8	135.5	13.5	153.2	140.2	15
		7	148.2	135.6	14	154.1	140.5	15
		8	147.5	136.2	15	148.0	137.0	15
		9	149.0	137.9	14	150.0	138.3	14
		10	146.4	135.2	14	150.0	137.9	15
PH14-8Mo (SRH 1050)	.025	1	204.8	184.8	7	200.0	182.4	5
		2	198.0	180.5	10	211.3	193.5	5
		3	200.0	178.0	4	204.8	190.3	5
		4	209.3	192.7	7	202.8	188.6	6
		5	211.3	190.0	6	214.1	194.4	5
		6	198.8	176.0	5	206.5	187.7	4
		7	206.0	184.8	6	215.2	197.6	6
		8	200.8	188.0	5	214.5	195.2	4
INCO 718 20% Cold Rolled, Aged at 1275°F.	.025	1	225.9	207.8	12	224.0	207.3	13
		2	221.6	210.0	9	219.4	204.8	10
		3	227.4	217.0	9	217.6	202.6	7
		4	215.6	202.6	12	217.0	201.8	9
		5	226.4	210.0	10	218.3	202.4	10
		6	227.2	222.4	11	215.6	200.4	10
		7	220.8	208.8	10	221.4	204.8	8
		8	225.6	214.4	8	224.2	209.1	8
		9	224.4	212.0	8	216.8	200.3	7
		10	224.6	213.8	8	219.5	204.2	7
		11	219.6	206.5	8	216.8	200.0	7
		12	220.0	206.9	8	216.8	204.9	7
		13	221.3	209.6	8	224.8	207.3	7
		14	219.8	208.8	8	221.4	206.8	8
		15	215.6	203.4	10	224.2	208.7	8
		16	219.1	210.3	9	225.0	208.7	8
		17	219.5	204.0	10	218.4	200.4	8
		18	222.1	210.3	8	219.4	203.6	8
		19	217.2	204.2	8	213.4	197.6	8
		20	225.9	212.9	9	225.2	210.3	8

* 2-in. Gage Length

TABLE 6 STATIC TEST DATA FOR UNEXPOSED AND EXPOSED PLAIN SPECIMENS
8-1-1 TITANIUM DUPLEX ANNEALED (.050 IN. NOMINAL THICKNESS) TRANSVERSE GRAIN

Prior Soak	Tested at Room Temp.				Tested at 400°F				Tested at 650°F			
	Specimen No.	F_{tu} (ksi)	F_{ty} (ksi)	e* (%)	Specimen No.	F_{tu} (ksi)	F_{ty} (ksi)	e* (%)	Specimen No.	F_{tu} (ksi)	F_{ty} (ksi)	e* (%)
None	See Table 5				A-I-1-42	120.1	100.5	15.0	A-I-1-58	110.8	87.1	13.5
					A-I-1-43	120.8	102.9	15.0	A-I-1-69	109.2	85.7	14.0
					A-I-1-44	117.5	99.1	16.0	A-I-1-70	110.5	87.6	14.0
25 ksi & 400°F for 100 hr	B-I-1-a-9	147.0	135.9	**	B-I-1-a-14	120.2	101.0	13.0	B-I-1-a-17	107.1	85.0	12.5
	B-I-1-a-12	144.4	133.8	**	B-I-1-a-15	121.4	102.5	14.0	B-I-1-a-20	110.9	88.8	12.0
	B-I-1-a-13	145.7	134.4	**	B-I-1-a-16	120.9	101.7	14.0	B-I-1-a-21	112.5	89.8	12.5
25 ksi & 400°F for 1000 hr	B-I-1-b-22	149.8	137.9	13.0	B-I-1-b-30	119.7	101.8	14.0	B-I-1-b-35	109.0	87.7	11.0
	B-I-1-b-26	147.4	134.7	12.0	B-I-1-b-32	120.3	102.0	14.0	B-I-1-b-36	112.3	91.0	11.0
	B-I-1-b-28	147.8	135.5	14.0	B-I-1-b-33	122.2	103.1	14.0	B-I-1-b-37	112.3	92.2	12.0
25 ksi & 400°F for 5000 hr	B-I-1-c-38	151.5	140.1	14.5	B-I-1-c-41	123.8	103.4	13.0	B-I-1-c-47	112.3	89.2	10.5
	B I-1-c-39	148.2	137.3	15.0	B-I-1-c-45	123.3	103.0	13.0	B-I-1-c-48	111.2	88.4	11.0
	B I-1-c-40	148.5	——	15.5	B-I-1-c-46	123.4	104.7	14.0	B-I-1-c-49	110.5	88.8	12.0
25 ksi & 650°F for 100 hr	B-I-1-d-2	152.9	137.9	14.0	B-I-1-d-5	125.4	101.0	14.0	B-I-1-d-8	113.1	86.9	12.5
	B-I-1-d-3	152.8	138.7	15.0	B-I-1-d-6	126.0	101.3	15.0	B-I-1-d-10	112.9	86.5	10.5
	B-I-1-d-4	151.5	137.7	14.0	B-I-1-d-7	126.9	102.8	14.0	B-I-1-d-11	115.9	90.3	11.0
25 ksi & 650°F for 1000 hr	B-I-1-e-50	159.4	147.1	16.0	B-I-1-e-53	130.7	105.5	15.0	B-I-1-e-56	115.3	89.3	11.0
	B-I-1-e-51	156.3	144.5	16.0	B-I-1-e-54	130.3	105.2	15.0	B-I-1-e-57	114.2	90.6	10.0
	B-I-1-e-52	157.1	145.7	16.0	B-I-1-e-55	126.8	100.4	14.0	B-I-1-e-68	112.5	86.9	10.5
25 ksi & 650°F for 5000 hr	B-I-1-f-59	152.6	137.9	15.0	B-I-1-f-62	125.6	104.0	16.0	B-I-1-f-65	119.8	94.6	15.0
	B-I-1-f-60	153.4	138.0	16.0	B-I-1-f-63	130.7	109.7	18.0	B-I-1-f-66	118.8	93.5	15.0
	B-I-1-f-61	155.7	142.2	17.5	B-I-1-f-64	132.7	110.3	17.0	B-I-1-f-67	116.2	88.1	15.5

* 2-in. gage length

** Failed outside gage length

TABLE 7 STATIC TEST DATA FOR UNEXPOSED AND EXPOSED PLAIN SPECIMENS
PH14-8Mo (SRH 1050) STAINLESS STEEL (.025-IN. NOMINAL THICKNESS) TRANSVERSE GRAIN

Prior Soak	Tested at Room Temp.				Tested at 400°F				Tested at 650°F			
	Specimen No.	F_{tu} (ksi)	F_{ty} (ksi)	e* (%)	Specimen No.	F_{tu} (ksi)	F_{ty} (ksi)	e* (%)	Specimen No.	F_{tu} (ksi)	F_{ty} (ksi)	e* (%)
None	See Table 5				A-II-1-67	199.2	180.2	2.0	A-II-1-70	186.0	169.6	3.0
					A-II-1-68	197.1	182.4	2.0	A-II-1-71	185.1	168.1	4.0
					A-II-1-69	195.9	177.0	2.0	A-II-1-72	187.9	165.7	3.5
40 ksi & 400°F for 100 hr	B-II-1-a-37	220.2	205.8	5.0	B-II-1-a-40	197.2	183.9	3.0	B-II-1-a-43	186.4	173.6	3.0
	B-II-1-a-38	222.7	206.2	4.5	B-II-1-a-41	198.4	187.0	2.0	B-II-1-a-44	185.6	167.6	3.0
	B-II-1-a-39	220.3	204.5	4	B-II-1-a-42	198.8	186.6	2.5	B-II-1-a-45	188.6	167.2	2.5
40 ksi & 400°F for 1000 hr	B-II-1-b-47	221.2	208.0	3.5	B-II-1-b-50	197.1	183.6	2.0	B-II-1-b-53	189.7	173.1	3.0
	B-II-1-b-48	220.1	204.1	3.0	B-II-1-b-51	198.4	187.3	1.5	B-II-1-b-54	188.4	171.9	1.5
	B-II-1-b-49	220.9	204.5	4.0	B-II-1-b-52	199.6	188.4	2.0	B-II-1-b-55	189.7	171.5	3.5
40 ksi & 400°F for 5000 hr	B-II-1-c-57	217.8	207.8	3.0	B-II-1-c-60	196.3	183.9	2.5	B-II-1-c-63	184.4	166.0	3.0
	B-II-1-c-58	219.8	210.3	4.0	B-II-1-c-61	197.6	187.5	2.0	B-II-1-c-64	184.6	169.1	2.5
	B-II-1-c-59	220.2	209.5	4.0	B-II-1-c-62	198.4	188.5	2.0	B-II-1-c-65	182.9	165.4	2.5
40 ksi & 650°F for 100 hr	B-II-1-d-1	221.2	203.2	4.0	B-II-1-d-4	198.8	186.9	2.0	B-II-1-d-7	190.9	173.6	2.5
	B-II-1-d-2	226.8	210.6	3.0	B-II-1-d-5	198.8	189.8	2.5	B-II-1-d-8	185.5	173.6	1.5
	B-II-1-d-3	219.9	200.4	4.0	B-II-1-d-6	200.8	190.6	2.0	B-II-1-d-9	192.2	178.7	3.0
40 ksi & 650°F for 1000 hr	B-II-1-e-11	228.9	212.2	2.0	B-II-1-e-14	210.2	201.2	2.0	B-II-1-e-17	198.3	179.3	3.0
	B-II-1-e-12	236.4	216.5	3.5	B-II-1-e-15	213.6	203.3	2.0	B-II-1-e-24	197.5	180.3	2.5
	B-II-1-e-13	235.5	218.2	3.0	B-II-1-e-16	210.7	200.4	2.0	B-II-1-e-25	199.2	182.0	2.0
40 ksi & 650°F for 5000 hr	B-II-1-f-27	247.9	233.0	3.5	B-II-1-f-30	216.8	207.8	2.5	B-II-1-f-33	201.1	185.5	6.0
	B-II-1-f-28	246.3	229.1	4.0	B-II-1-f-31	218.0	209.0	2.5	B-II-1-f-34	198.8	175.8	6.0
	B-II-1-f-29	247.1	232.4	4.0	B-II-1-f-32	220.4	210.5	2.0	B-II-1-f-35	200.8	184.4	4.0

* 2-in. gage length

TABLE 8 STATIC TEST DATA FOR UNEXPOSED AND EXPOSED PLAIN SPECIMENS
INCO 718 (.025 IN. THICKNESS) TRANSVERSE GRAIN

Prior Soak	Tested at Room Temp.				Tested at 400°F				Tested at 650°F			
	Specimen No.	F_{tu} (ksi)	F_{ty} (ksi)	e* (%)	Specimen No.	F_{tu} (ksi)	F_{ty} (ksi)	e* (%)	Specimen No.	F_{tu} (ksi)	F_{ty} (ksi)	e* (%)
None	See Table 5				A-III-1-63	204.7	187.6	7.0	A-III-1-61	200.0	189.0	7.0
					A-III-1-64	208.2	191.8	6.5	A-III-1-62	200.0	179.5	8.0
					A-III-1-72	205.4	186.9	7.0	A-III-1-71	199.6	182.3	6.5
40 ksi & 400°F for 100 hr	B-III-1-a-31	220.8	202.3	7.0	B-III-1-a-34	205.4	188.0	6.0	B-III-1-a-37	200.0	183.1	5.0
	B-III-1-a-32	222.6	205.1	7.5	B-III-1-a-35	207.7	192.7	6.5	B-III-1-a-38	199.6	185.6	9.0
	B-III-1-a-33	224.8	207.1	7.5	B-III-1-a-36	204.2	186.5	5.5	B-III-1-a-39	199.2	182.3	7.0
40 ksi & 400°F for 1000 hr	B-III-1-b-41	224.0	206.9	8.0	B-III-1-b-44	205.9	190.2	7.0	B-III-1-b-47	200.0	184.5	8.0
	B-III-1-b-42	222.5	204.6	8.0	B-III-1-b-45	207.4	193.4	6.5	B-III-1-b-48	200.0	186.2	7.5
	B-III-1-b-43	224.2	206.0	7.5	B-III-1-b-46	203.8	185.4	6.0	B-III-1-b-49	196.5	181.9	6.5
40 ksi & 400°F for 5000 hr	B-III-1-c-51	219.6	201.2	6.0	B-III-1-c-54	207.5	186.3	7.5	B-III-1-c-57	196.0	178.6	8.0
	B-III-1-c-52	221.2	202.7	6.5	B-III-1-c-55	205.0	182.8	8.0	B-III-1-c-58	198.8	177.8	8.0
	B-III-1-c-53	221.7	201.2	8.5	B-III-1-c-56	200.0	186.2	5.0	B-III-1-c-59	189.9	176.0	7.0
40 ksi & 650°F for 100 hr	B-III-1-d-1	221.6	204.2	8.5	B-III-1-d-4	205.8	190.7	6.5	B-III-1-d-7	200.4	187.3	7.0
	B-III-1-d-2	219.9	202.7	7.0	B-III-1-d-5	203.5	187.3	7.0	B-III-1-d-8	200.0	185.5	7.0
	B-III-1-d-3	219.5	202.7	7.0	B-III-1-d-6	207.0	191.4	6.0	B-III-1-d-9	200.8	186.5	8.0
40 ksi & 650°F for 1000 hr	B-III-1-e-11	222.9	205.4	**	B-III-1-e-14	208.2	192.2	6.5	B-III-1-e-17	200.4	185.8	7.5
	B-III-1-e-12	221.3	205.0	6.5	B-III-1-e-15	206.3	192.1	6.0	B-III-1-e-18	200.0	184.9	6.0
	B-III-1-e-13	225.8	209.6	9.0	B-III-1-e-16	205.5	190.6	5.0	B-III-1-e-19	201.2	186.9	7.5
40 ksi & 650°F for 5000 hr	B-III-1-f-21	223.6	205.9	7.5	B-III-1-f-24	204.7	189.8	10.0	B-III-1-f-27	198.0	183.8	6.5
	B-III-1-f-22	221.7	204.6	7.5	B-III-1-f-25	201.7	183.7	7.0	B-III-1-f-28	194.1	178.5	7.0
	B-III-1-f-23	205.5	205.5	8.0	B-III-1-f-26	204.5	192.5	7.0	B-III-1-f-29	195.3	179.1	6.0

* 2-in. gage length

** Failed outside gage length

TABLE 9 STATIC TENSILE STRENGTH FOR UNEXPOSED AND EXPOSED FUSION-WELDED AND PLANISHED SPECIMENS

TRANSVERSE GRAIN

(1 of 3)

Material	Gage (Nominal) (inches)	Prior Soak	Tested at Room Temp.		Tested at 400°F		Tested at 650°F	
			Specimen No.	F_{tu} (ksi)	Specimen No.	F_{tu} (ksi)	Specimen No.	F_{tu} (ksi)
8-1-1 Titanium Duplex-Annealed *	.050	None	A-I-2-42	151.0	A-I-2-46	125.4	A-I-2-56	113.0
			A-I-2-43	150.8	A-I-2-47	124.5	A-I-2-58	113.7
			A-I-2-44	150.0	A-I-2-52	120.7	A-I-2-59	110.4
		25 ksi & 400°F for 100 hr	B-I-2-a-12	150.8	B-I-2-a-23	122.6	B-I-2-a-31	114.1
			B-I-2-a-16	153.0	B-I-2-a-25	123.0	B-I-2-a-34	114.3
			B-I-2-a-18	151.6	B-I-2-a-28	122.0	B-I-2-a-41	112.5
		25 ksi & 400°F for 1000 hr	B-I-2-b-1	152.2	B-I-2-b-7	124.2	B-I-2-b-48	112.2
			B-I-2-b-4	152.8	B-I-2-b-9	123.1	B-I-2-b-54	112.4
			B-I-2-b-6	151.4	B-I-2-b-45	123.3	B-I-2-b-55	111.7
		25 ksi & 400°F for 5000 hr	B-I-2-c-13	147.4	B-I-2-c-20	118.1	B-I-2-c-37	107.4
			B-I-2-c-15	146.9	B-I-2-c-29	126.6	B-I-2-c-40	106.4
			B-I-2-c-17	145.4	B-I-2-c-33	118.9	B-I-2-c-51	108.6
		25 ksi & 650°F for 100 hr	B-I-2-d-14	157.4	B-I-2-d-38	128.9	B-I-2-d-53	116.5
			B-I-2-d-24	157.4	B-I-2-d-49	128.1	B-I-2-d-60	117.3
			B-I-2-d-30	156.6	B-I-2-d-50	130.8	B-I-2-d-64	118.3
		25 ksi & 650°F for 1000 hr	B-I-2-e-21	158.6	B-I-2-e-35	135.4	B-I-2-e-57	125.5
			B-I-2-e-26	162.3	B-I-2-e-36	133.4	B-I-2-e-62	123.5
			B-I-2-e-27	160.7	B-I-2-e-39	133.9	B-I-2-e-65	121.4
		25 ksi & 650°F for 5000 hr	B-I-2-f-2	155.0	B-I-2-f-8	129.4	B-I-2-f-19	115.4
			B-I-2-f-3	154.2	B-I-2-f-10	129.8	B-I-2-f-22	115.6
			B-I-2-f-5	153.8	B-I-2-f-11	129.6	B-I-2-f-32	116.2

* All failures away from weld

TABLE 9 (Continued)

(2 of 3)

Material	Gage (Nominal) (inches)	Prior Soak	Tested at Room Temp. Specimen No.	Tested at Room Temp. F_{tu} (ksi)	Tested at 400°F Specimen No.	Tested at 400°F F_{tu} (ksi)	Tested at 650°F Specimen No.	Tested at 650°F F_{tu} (ksi)
PH14-8Mo (SRH 1050) **Stainless Steel** *	.025	None	A-II-2-61	208.5	A-II-2-64	194.4	A-II-2-67	177.4
			A-II-2-62	206.0	A-II-2-65	194.4	A-II-2-68	175.4
			A-II-2-63	208.9	A-II-2-66	179.8	A-II-2-69	166.5
		40 ksi & 400°F for 100 hr	B-II-2-a-31	210.0	B-II-2-a-34	180.9	B-II-2-a-37	176.2
			B-II-2-a-32	211.6	B-II-2-a-35	170.7	B-II-2-a-38	175.2
			B-II-2-a-33	213.7	B-II-2-a-36	180.4	B-II-2-a-39	176.2
		40 ksi & 400°F for 1000 hr	B-II-2-b-41	213.7	B-II-2-b-44	171.4	B-II-2-b-47	181.5
			B-II-2-b-42	216.8	B-II-2-b-45	194.7	B-II-2-b-48	169.6
			B-II-2-b-43	196.6	B-II-2-b-46	189.3	B-II-2-b-49	182.7
		40 ksi & 400°F for 5000 hr	B-II-2-c-51	203.6	B-II-2-c-54	187.7	B-II-2-c-57	174.0
			B-II-2-c-52	207.3	B-II-2-c-55	172.7	B-II-2-c-58	170.0
			B-II-2-c-53	204.9	B-II-2-c-56	170.4	B-II-2-c-59	161.7
		40 ksi & 650°F for 100 hr	B-II-2-d-1	203.8	B-II-2-d-4	179.8	B-II-2-d-7	172.4
			B-II-2-d-2	202.6	B-II-2-d-5	180.9	B-II-2-d-8	166.5
			B-II-2-d-3	200.0	B-II-2-d-6	179.8	B-II-2-d-9	175.2
		40 ksi & 650°F for 1000 hr	B-II-2-e-11	223.6	B-II-2-e-14	200.8	B-II-2-e-17	197.2
			B-II-2-e-12	233.1	B-II-2-e-15	199.2	B-II-2-e-18	186.5
			B-II-2-e-13	217.6	B-II-2-e-16	202.0	B-II-2-e-19	190.6
		40 ksi & 650°F for 5000 hr	B-II-2-f-21	226.2	B-II-2-f-24	200.8	B-II-2-f-27	188.1
			B-II-2-f-22	219.1	B-II-2-f-25	205.7	B-II-2-f-28	187.2
			B-II-2-f-23	215.6	B-II-2-f-26	208.1	B-II-2-f-29	181.6

* With one exception, all failures in or immediately adjacent to weld

Table 9 (Continued)

(3 of 3)

Material	Gage (Nominal) (inches)	Prior Soak	Tested at Room Temp.		Tested at 400°F		Tested at 650°F	
			Specimen No.	F_{tu} (ksi)	Specimen No.	F_{tu} (ksi)	Specimen No.	F_{tu} (ksi)
INCO 718 Cold rolled, aged at 1275°F *	.025	None	A-III-2-61	139.1	A-III-2-64	129.8	A-III-2-67	124.6
			A-III-2-62	138.9	A-III-2-65	132.3	A-III-2-68	121.5
			A-III-2-63	145.4	A-III-2-66	129.4	A-III-2-69	126.3
		40 ksi & 400°F for 100 hr	B-III-2-a-31	140.8	B-III-2-a-34	125.6	B-III-2-a-37	124.8
			B-III-2-a-32	140.8	B-III-2-a-35	128.5	B-III-2-a-38	125.5
			B-III-2-a-33	139.6	B-III-2-a-36	124.0	B-III-2-a-39	128.0
		40 ksi & 400°F for 1000 hr	B-III-2-b-41	144.2	B-III-2-b-44	125.6	B-III-2-b-47	122.6
			B-III-2-b-42	143.1	B-III-2-b-45	131.7	B-III-2-b-48	124.8
			B-III-2-b-43	141.5	B-III-2-b-46	127.5	B-III-2-b-49	122.0
		40 ksi & 400°F for 5000 hr	B-III-2-c-51	140.0	B-III-2-c-54	124.6	B-III-2-C-57	124.8
			B-III-2-c-52	142.0	B-III-2-c-55	126.2	B-III-2-c-58	118.1
			B-III-2-c-53	140.8	B-III-2-c-56	129.4	B-III-2-c-59	121.9
		40 ksi & 650°F for 100 hr	B-III-2-d-1	134.8	B-III-2-d-4	124.1	B-III-2-d-7	122.1
			B-III-2-d-2	135.4	B-III-2-d-5	128.5	B-III-2-d-8	119.9
			B-III-2-d-3	140.1	B-III-2-d-6	122.4	B-III-2-d-9	118.6
		40 ksi & 650°F for 1000 hr	B-III-2-e-11	135.8	B-III-2-e-14	122.5	B-III-2-e-17	113.9
			B-III-2-e-12	137.2	B-III-2-e-15	121.9	B-III-2-e-18	118.2
			B-III-2-e-13	134.7	B-III-2-e-16	124.4	B-III-2-e-19	123.9
		40 ksi & 650°F for 5000 hr	B-III-2-f-21	136.1	B-III-2-f-24	125.4	B-III-2-f-27	122.3
			B-III-2-f-22	134.3	B-III-2-f-25	127.9	B-III-2-f-28	117.7
			B-III-2-f-23	137.6	B-III-2-f-26	122.5	B-III-2-f-29	122.9

* All failures in or immediately adjacent to weld

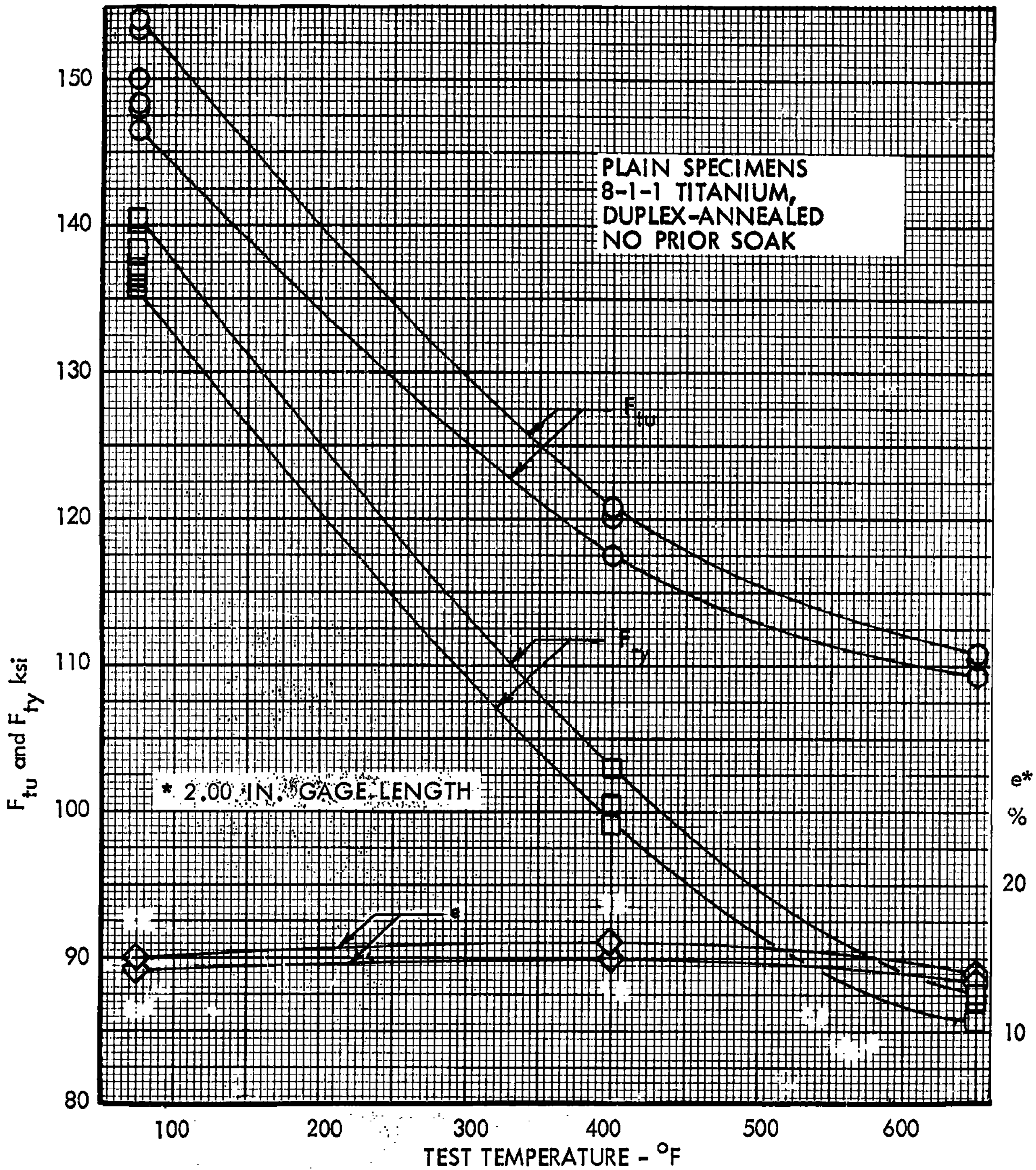


Figure 1. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, 8-1-1 Titanium

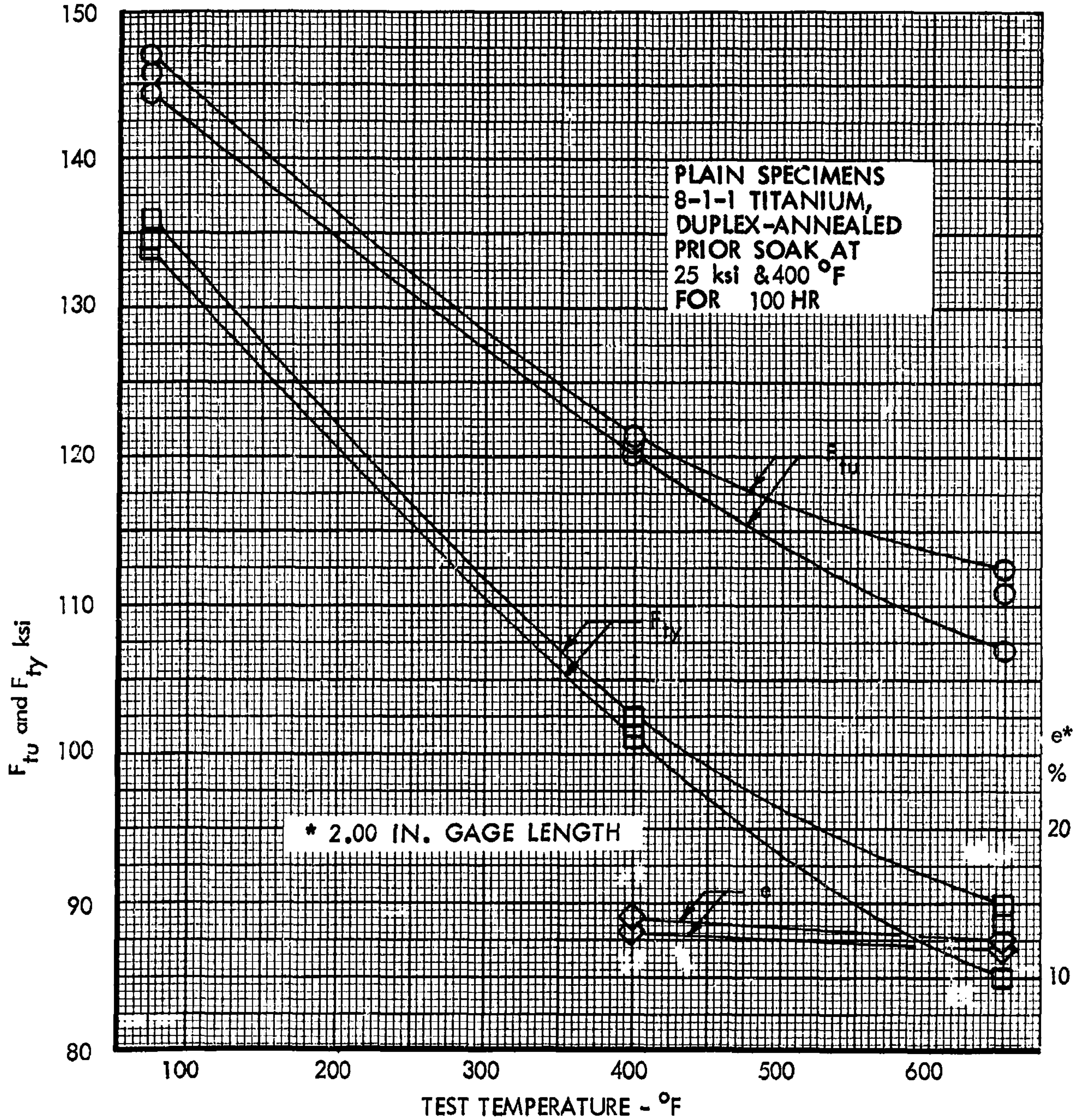


Figure 2. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, 8-1-1 Titanium

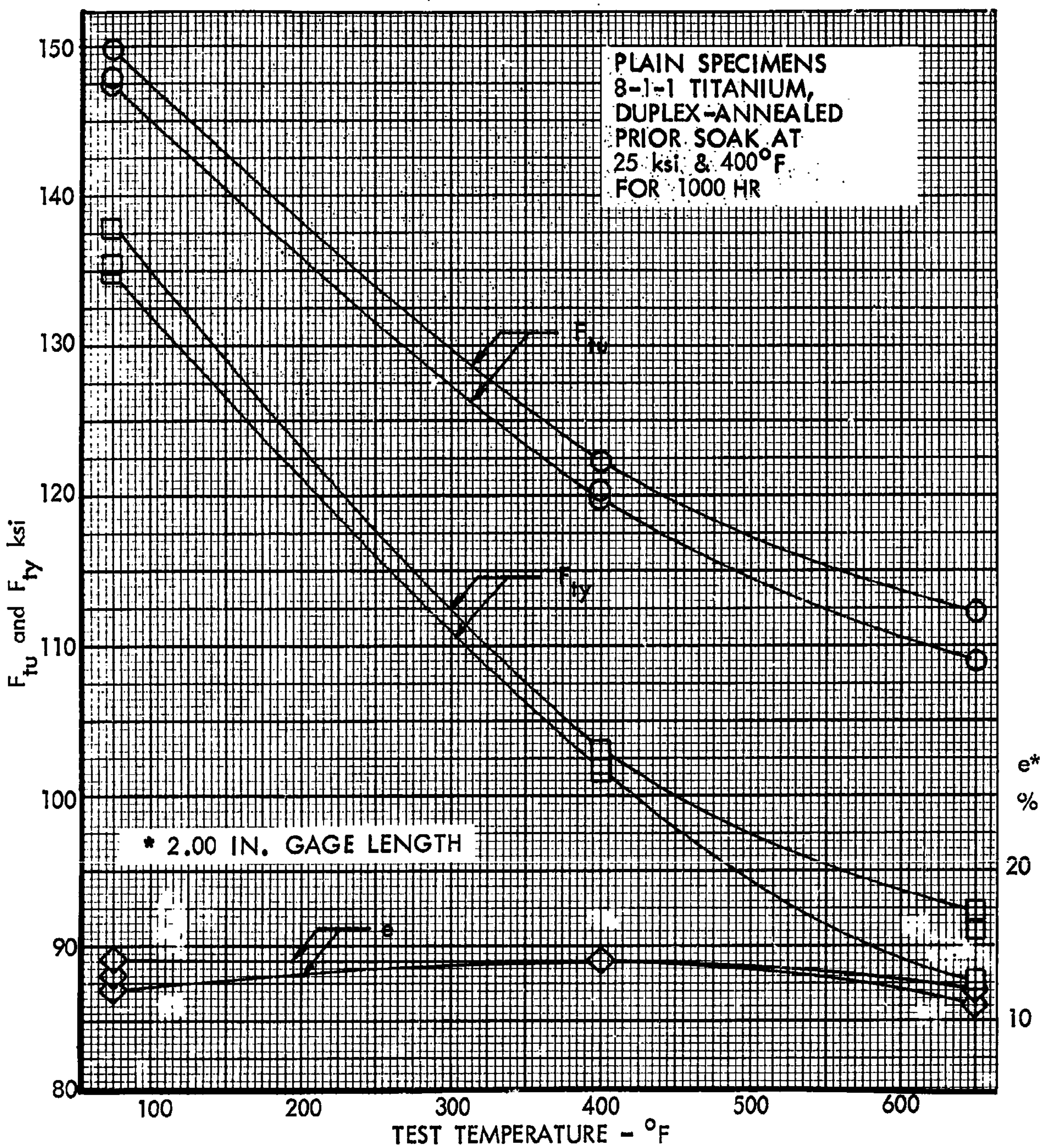


Figure 3. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, 8-1-1 Titanium

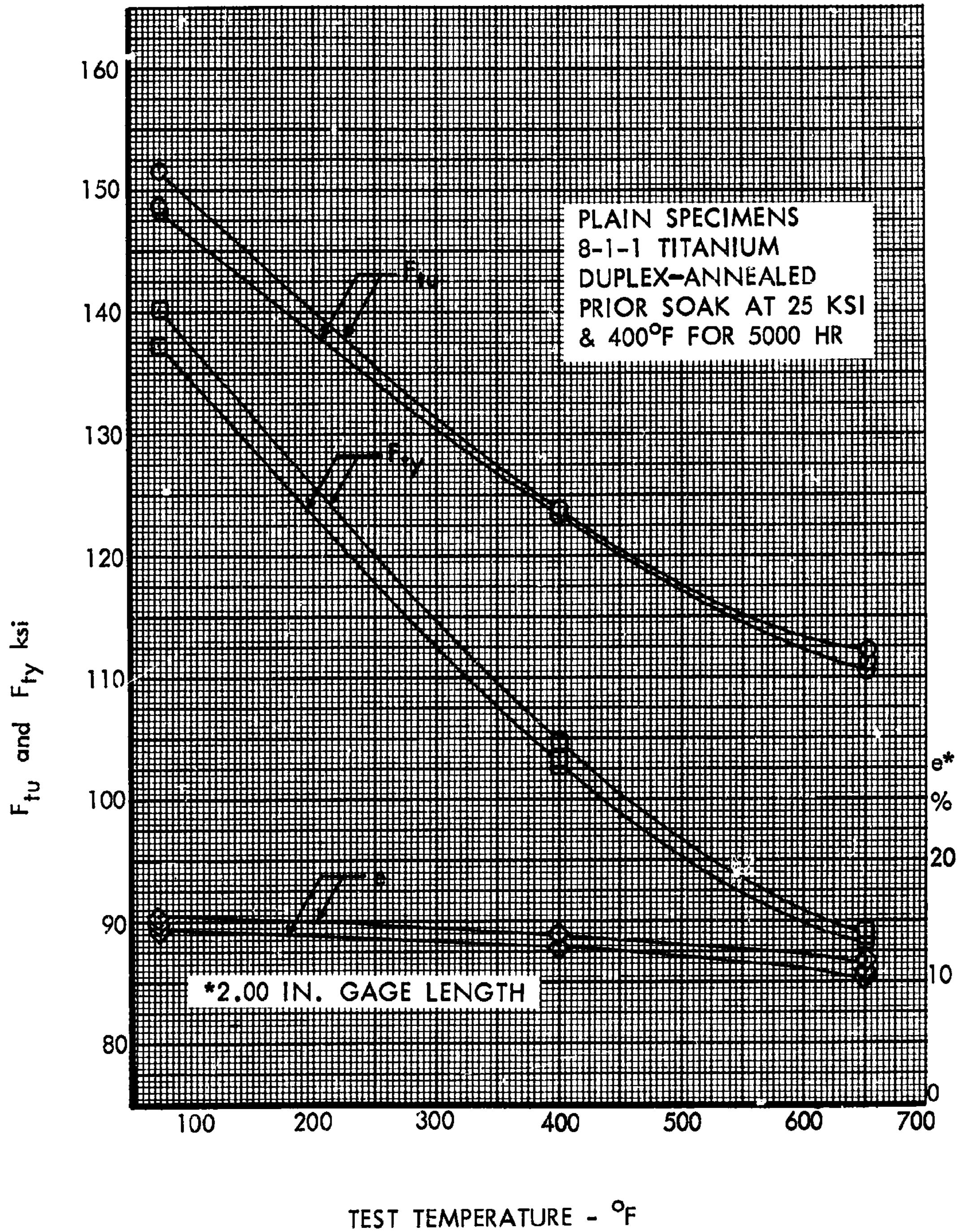


Figure 4. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, 8-1-1 Titanium

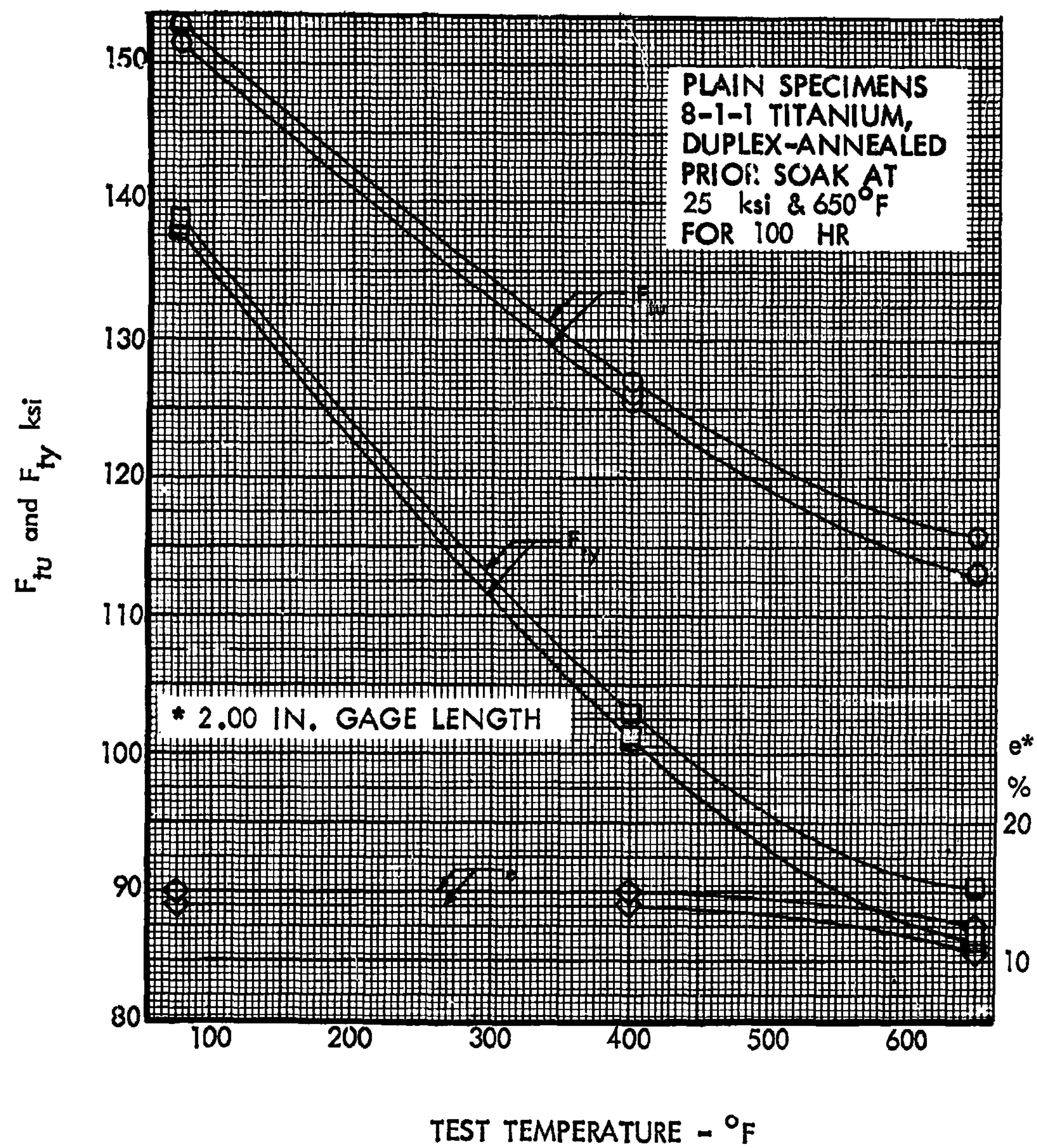


Figure 5. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, 8-1-1 Titanium

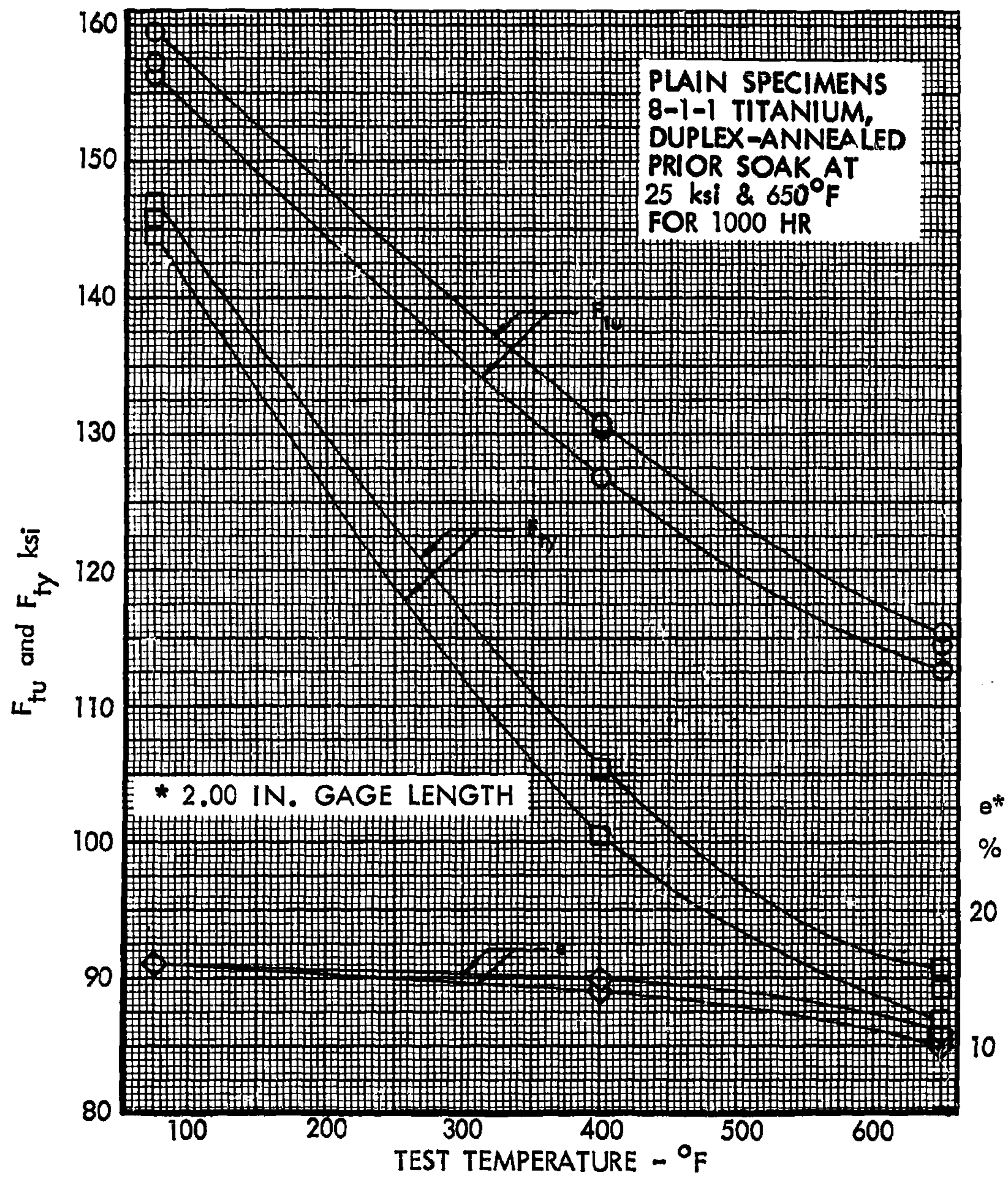


Figure 6. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, 8-1-1 Titanium

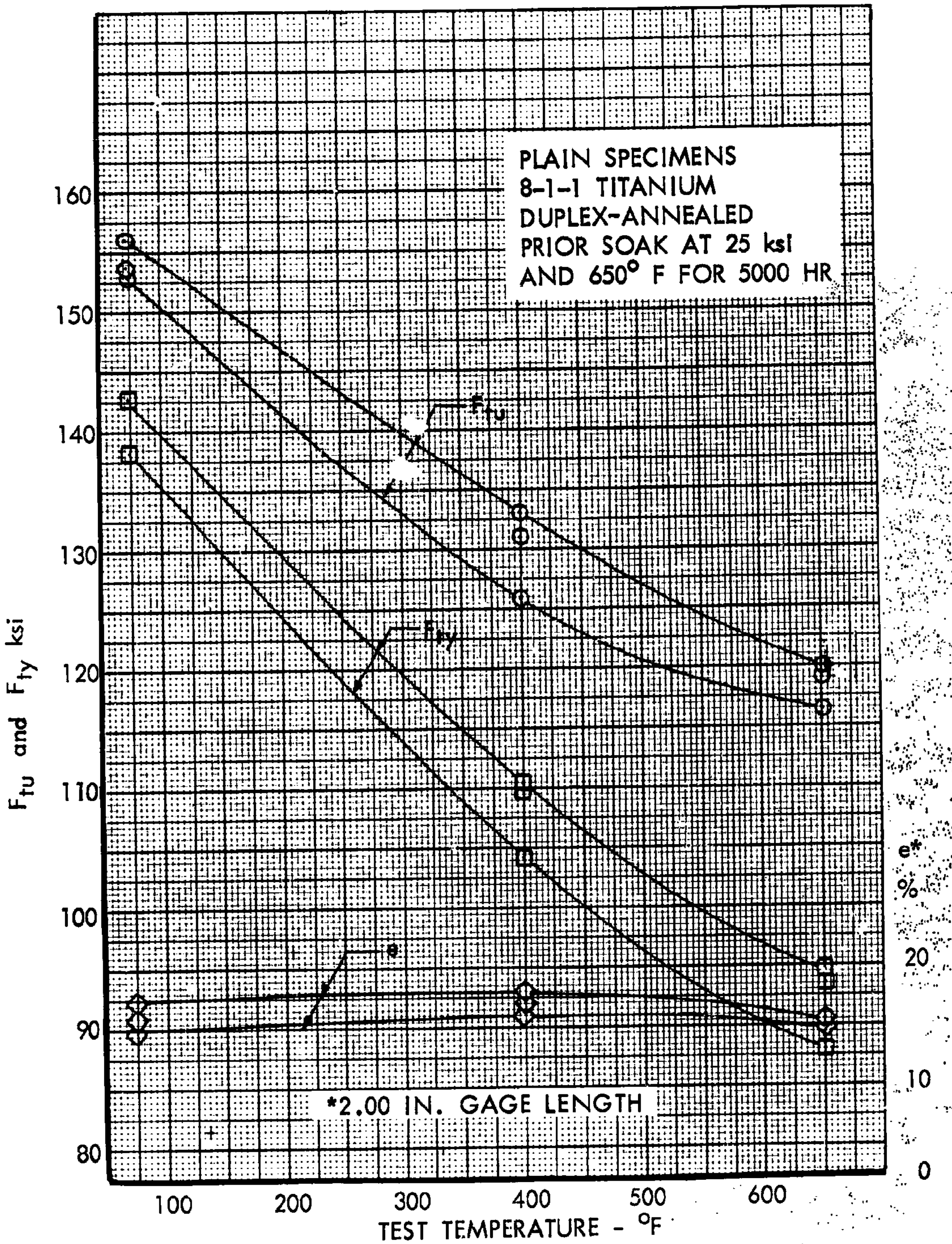


Figure 7. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, 8-1-1 Titanium

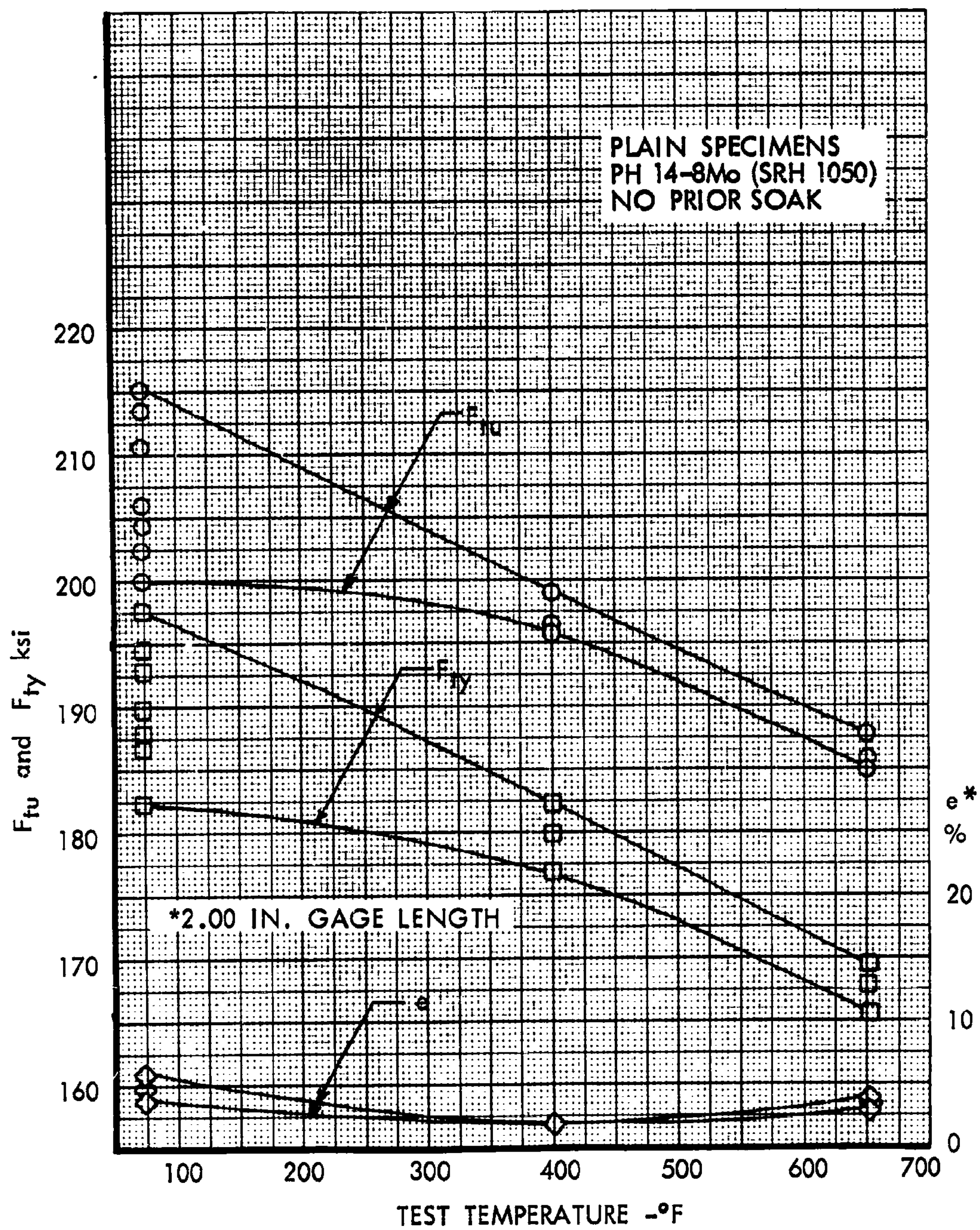


Figure 8. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, PH 14-8Mo

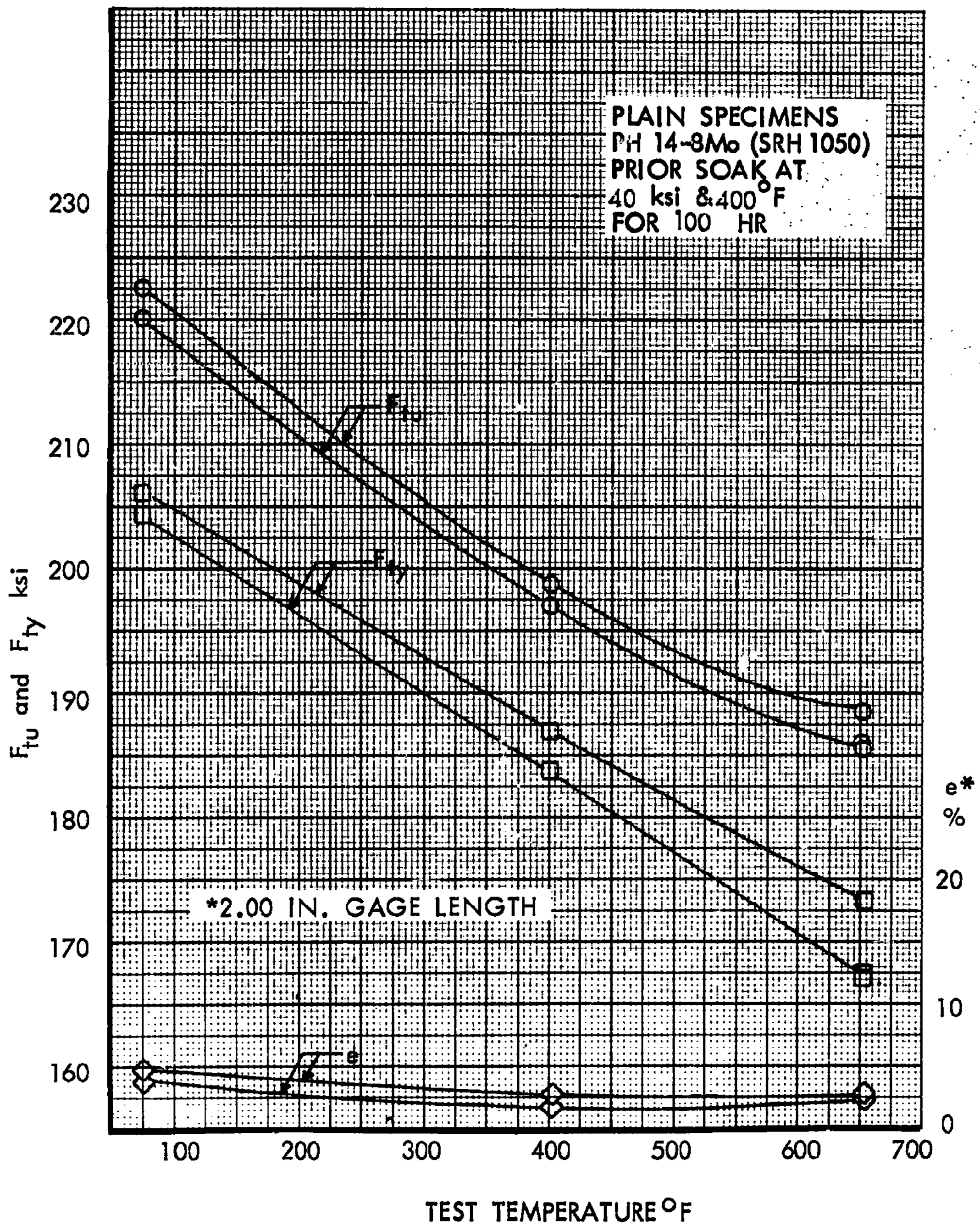


Figure 9. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, PH 14-8Mo

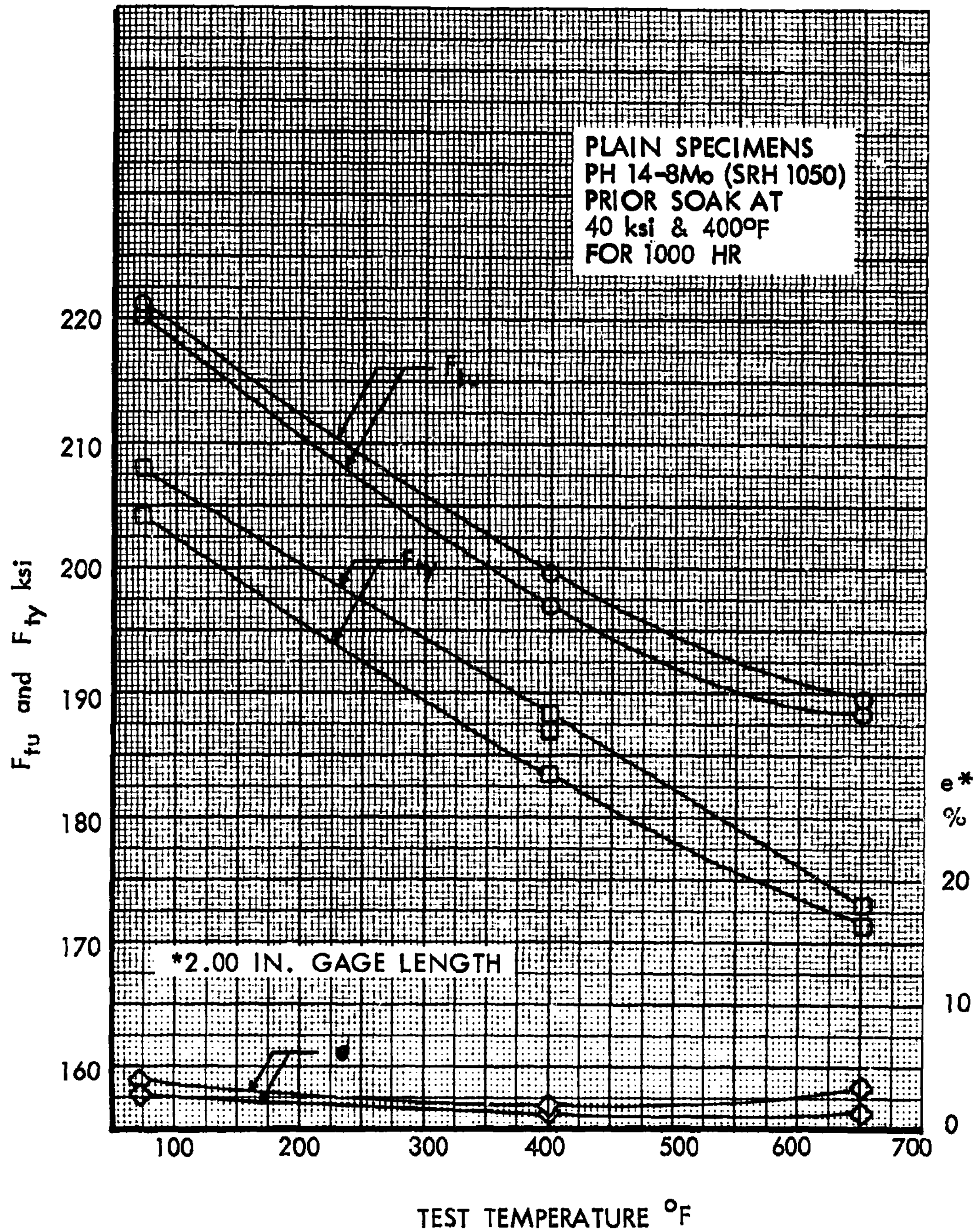


Figure 10. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, PH 14-8Mo

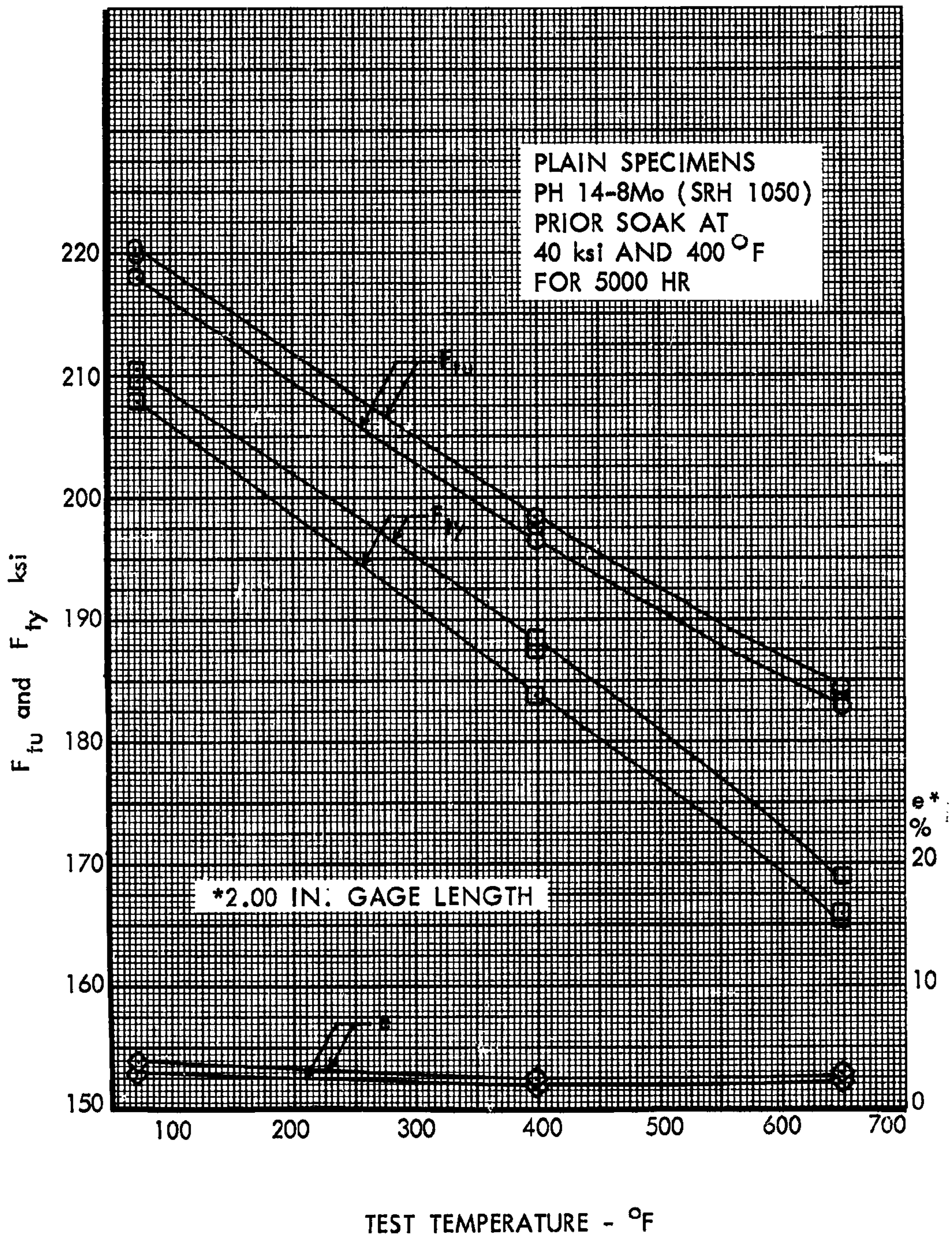


Figure 11. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, PH 14-8Mo

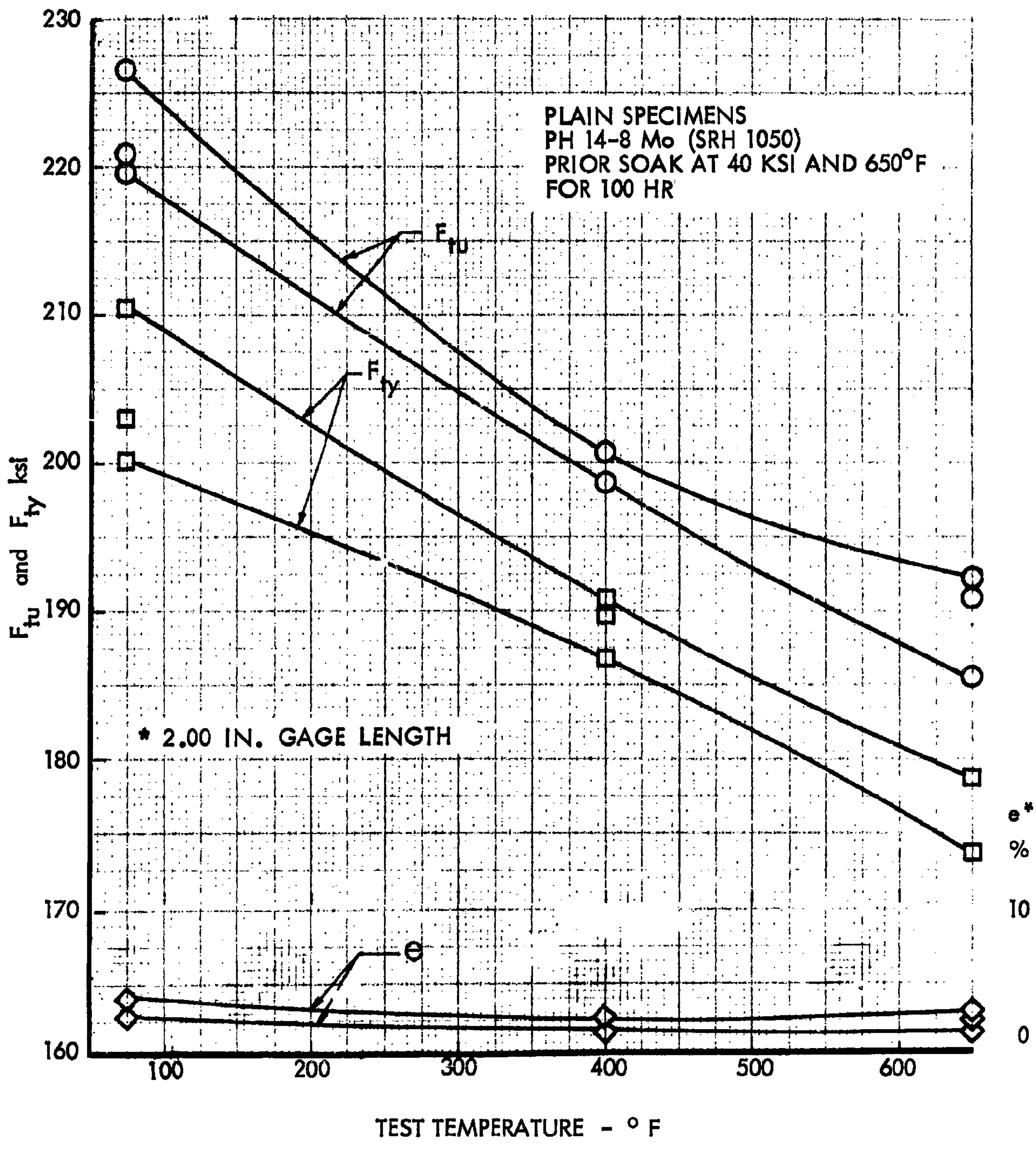


Figure 12. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, PH 14-8Mo

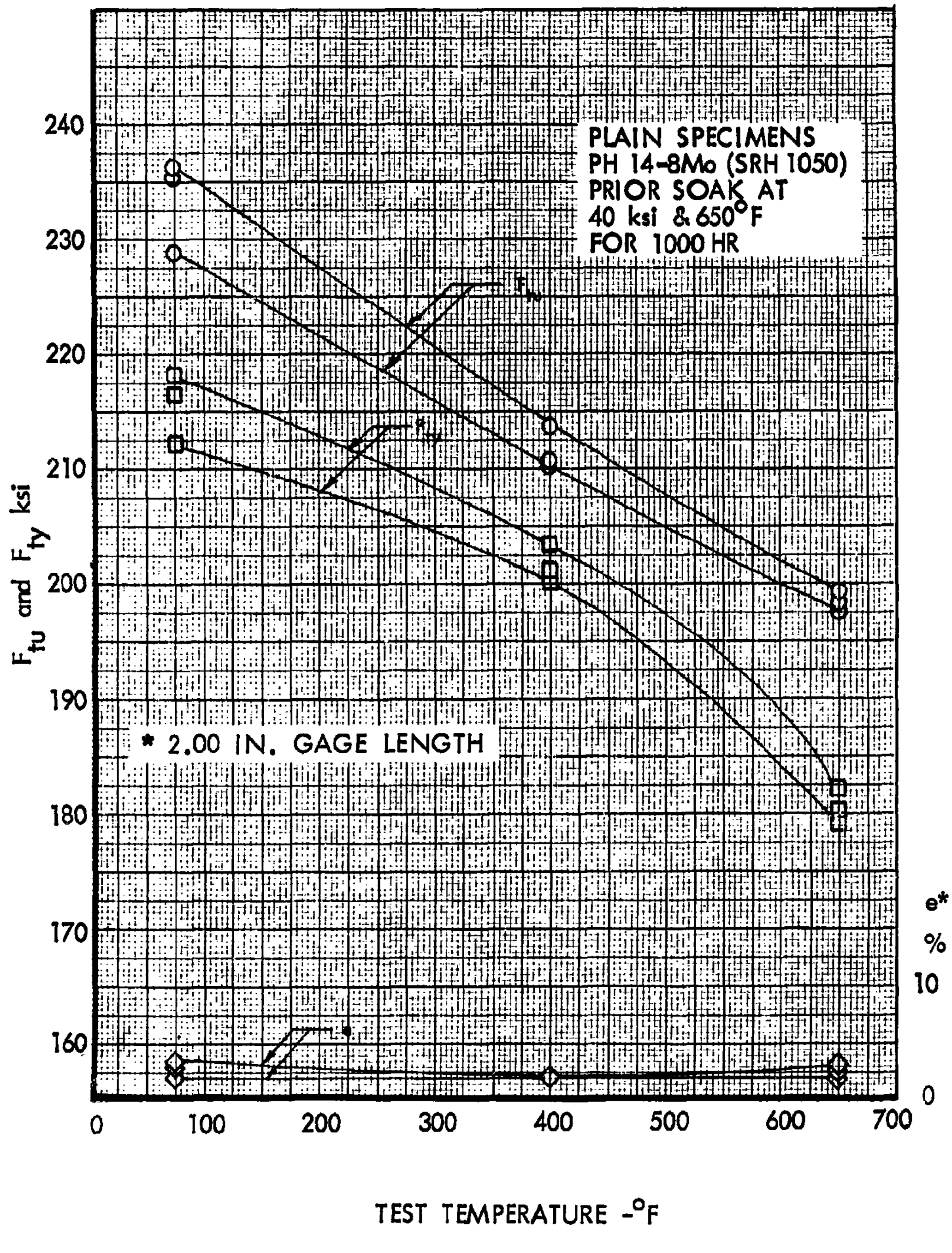


Figure 13. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, PH 14-8Mo

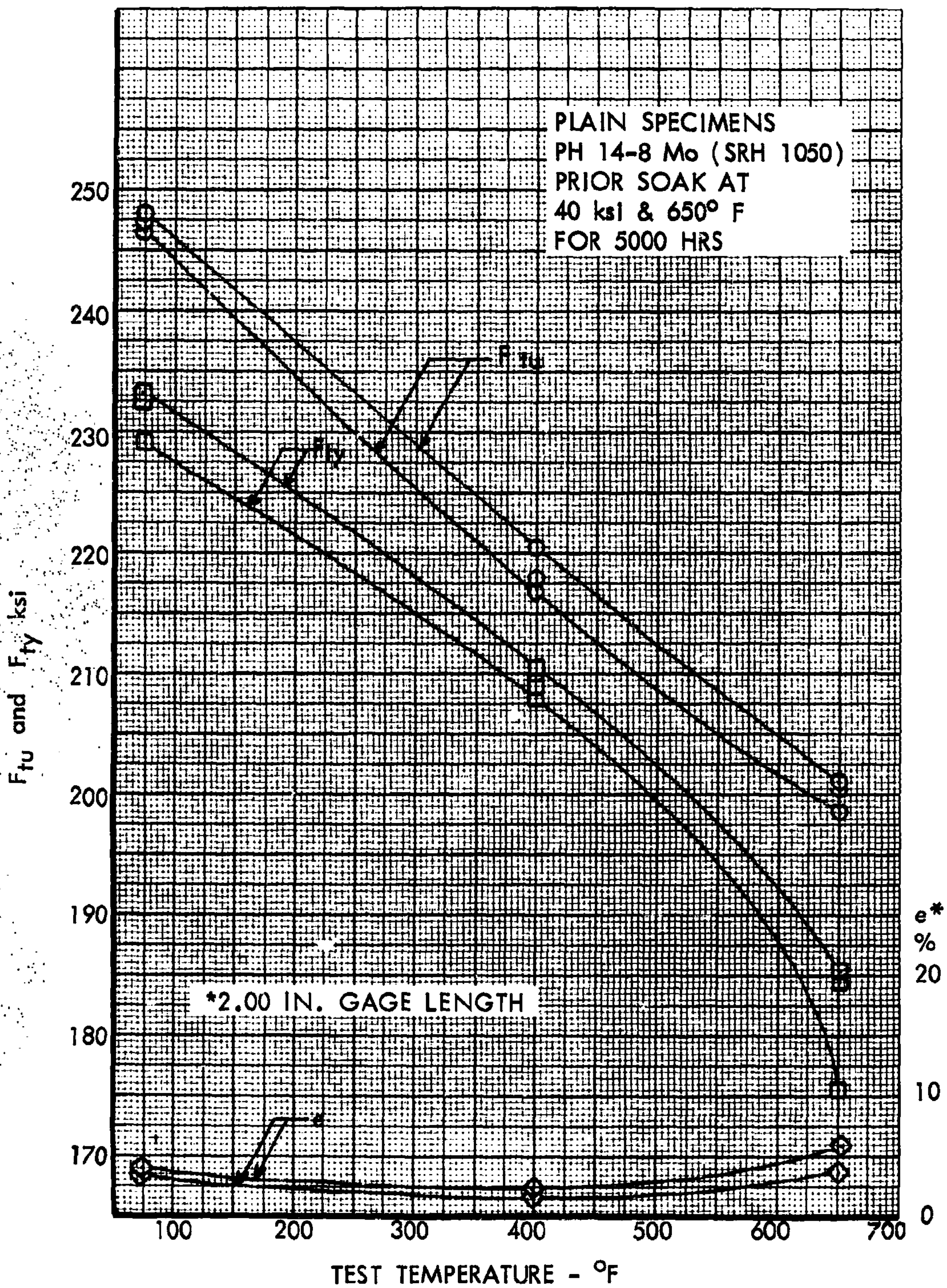


Figure 14. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, PH 14-8Mo

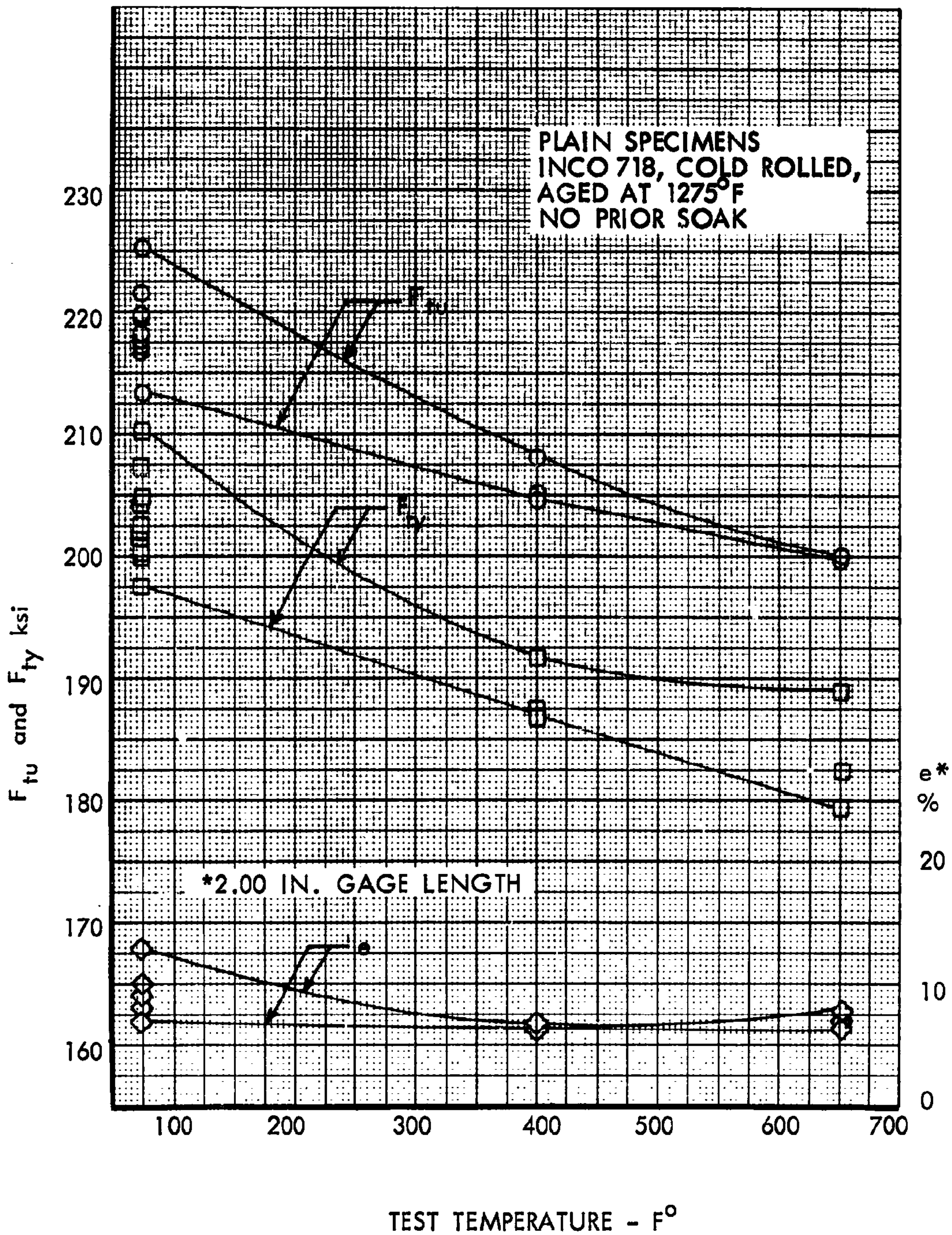


Figure 15. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, INCO 718

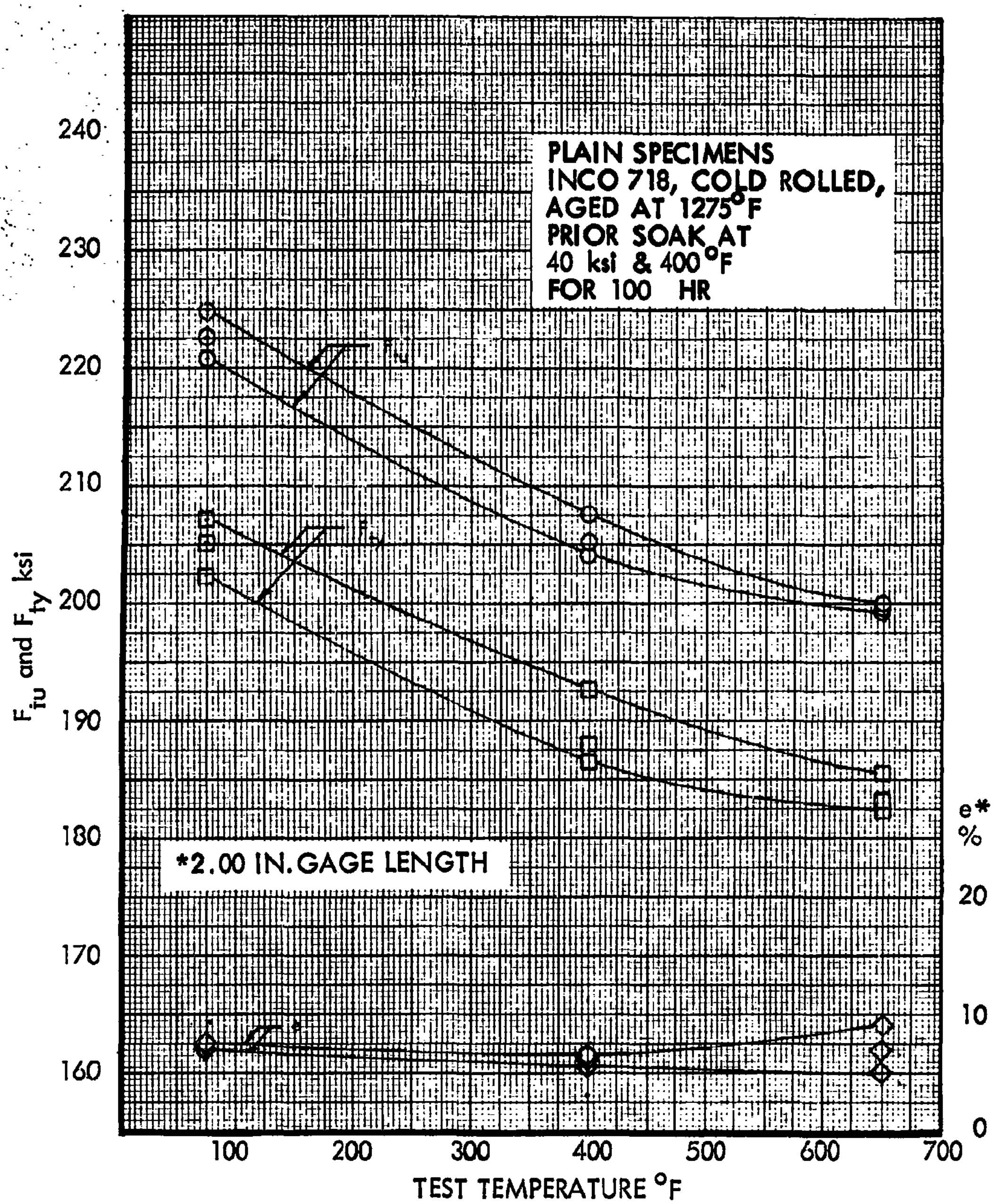


Figure 16. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, INCO 718

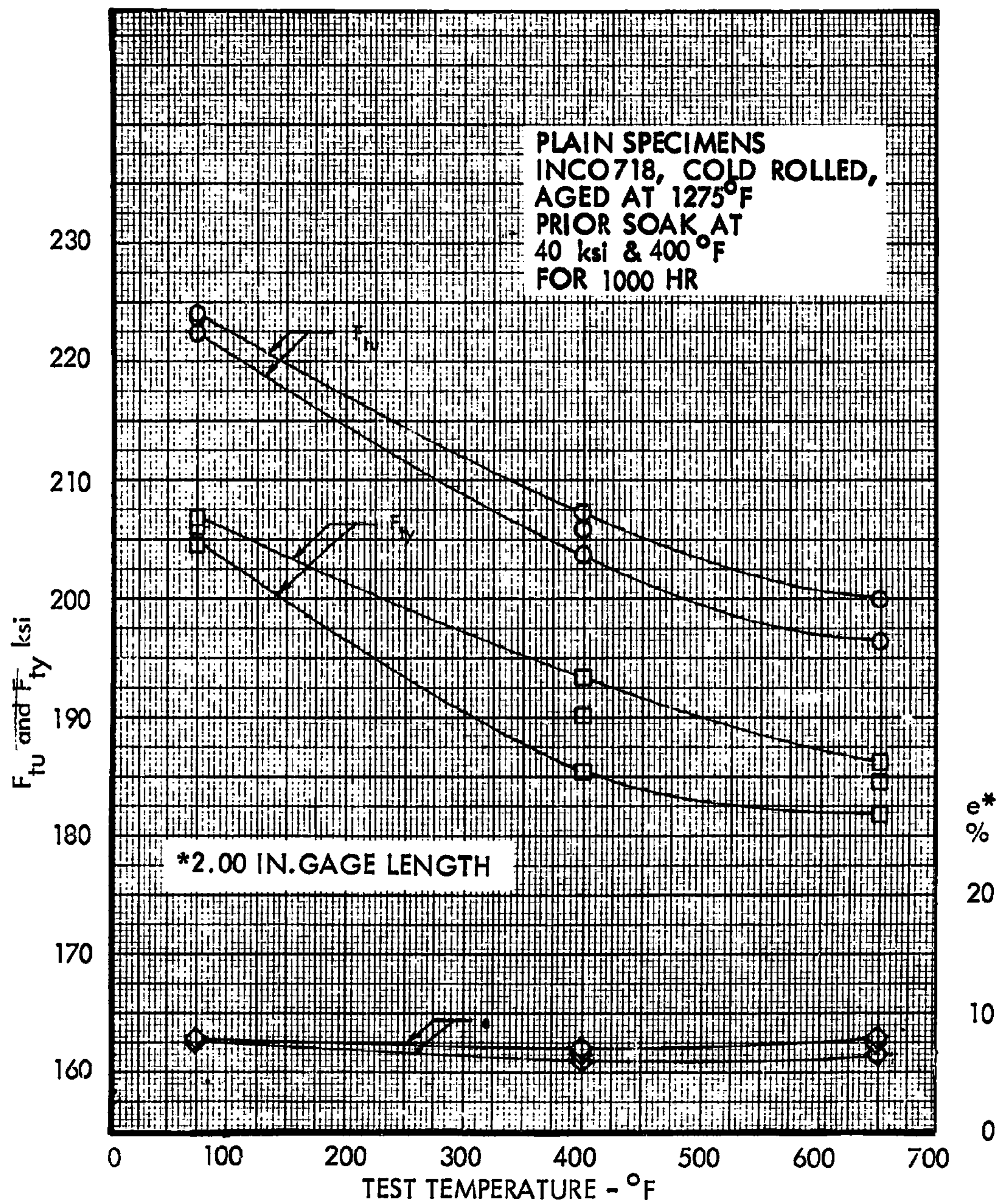


Figure 17. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, INCO 718

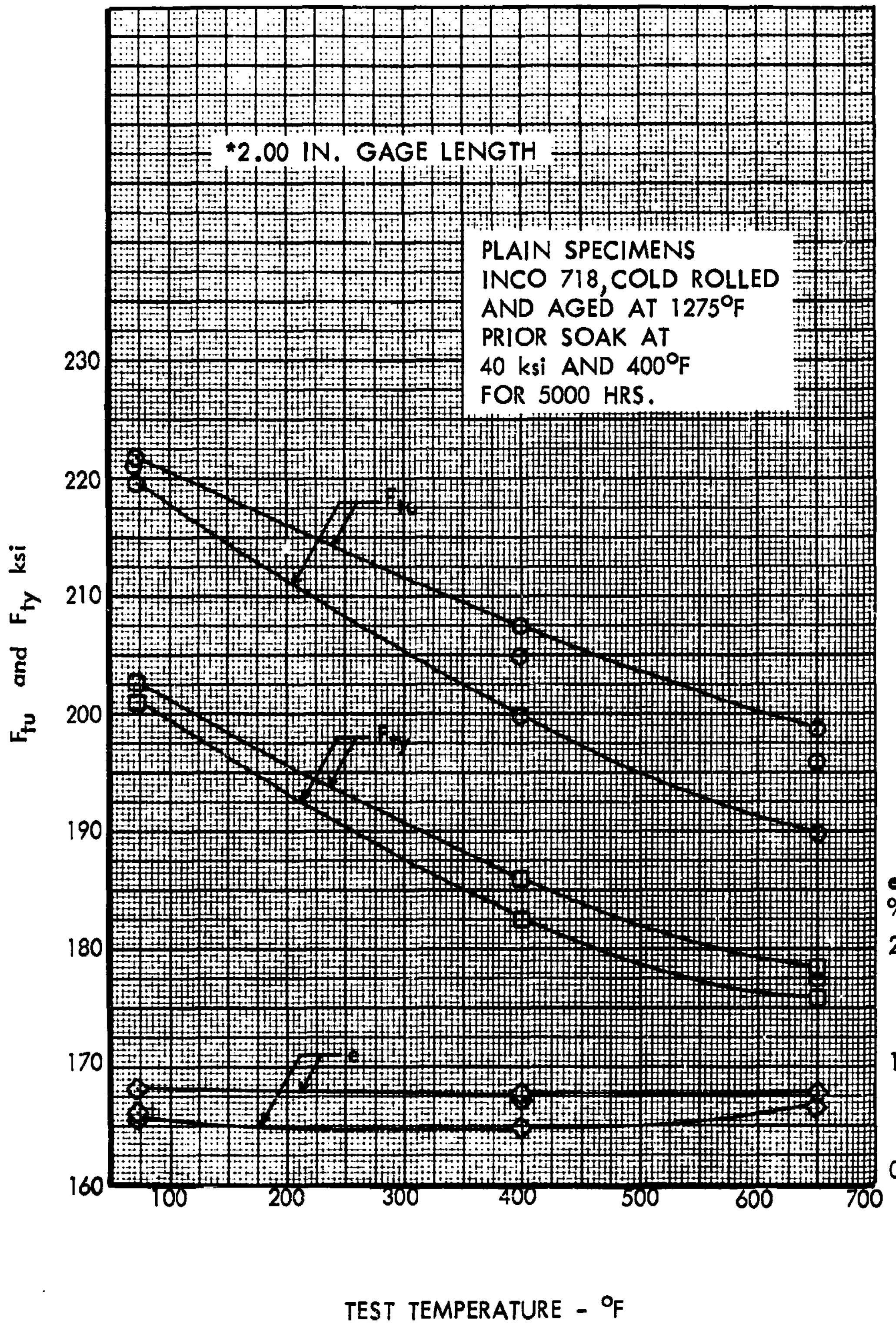


Figure 18. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, INCO 718

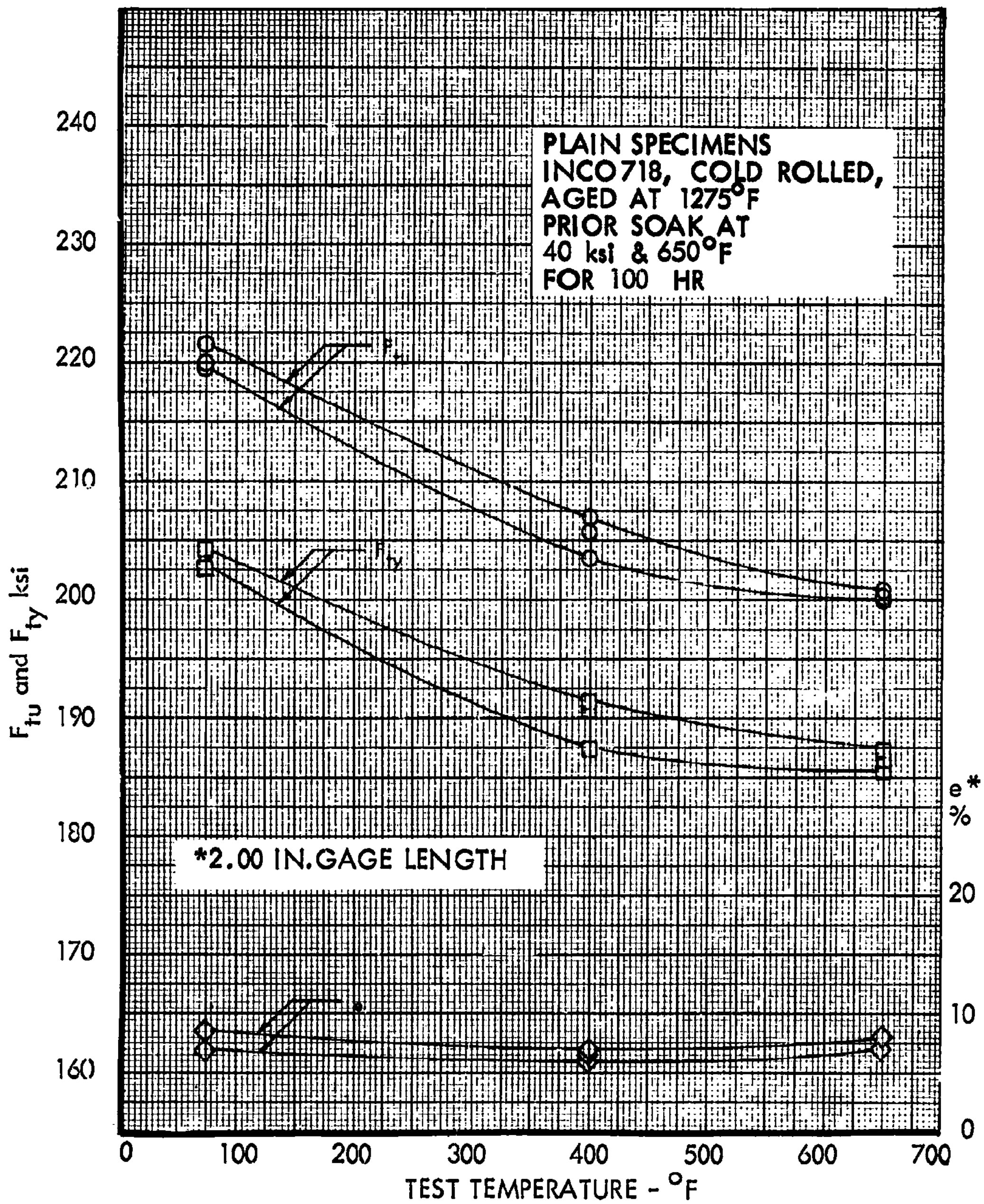


Figure 19. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, INCO 718

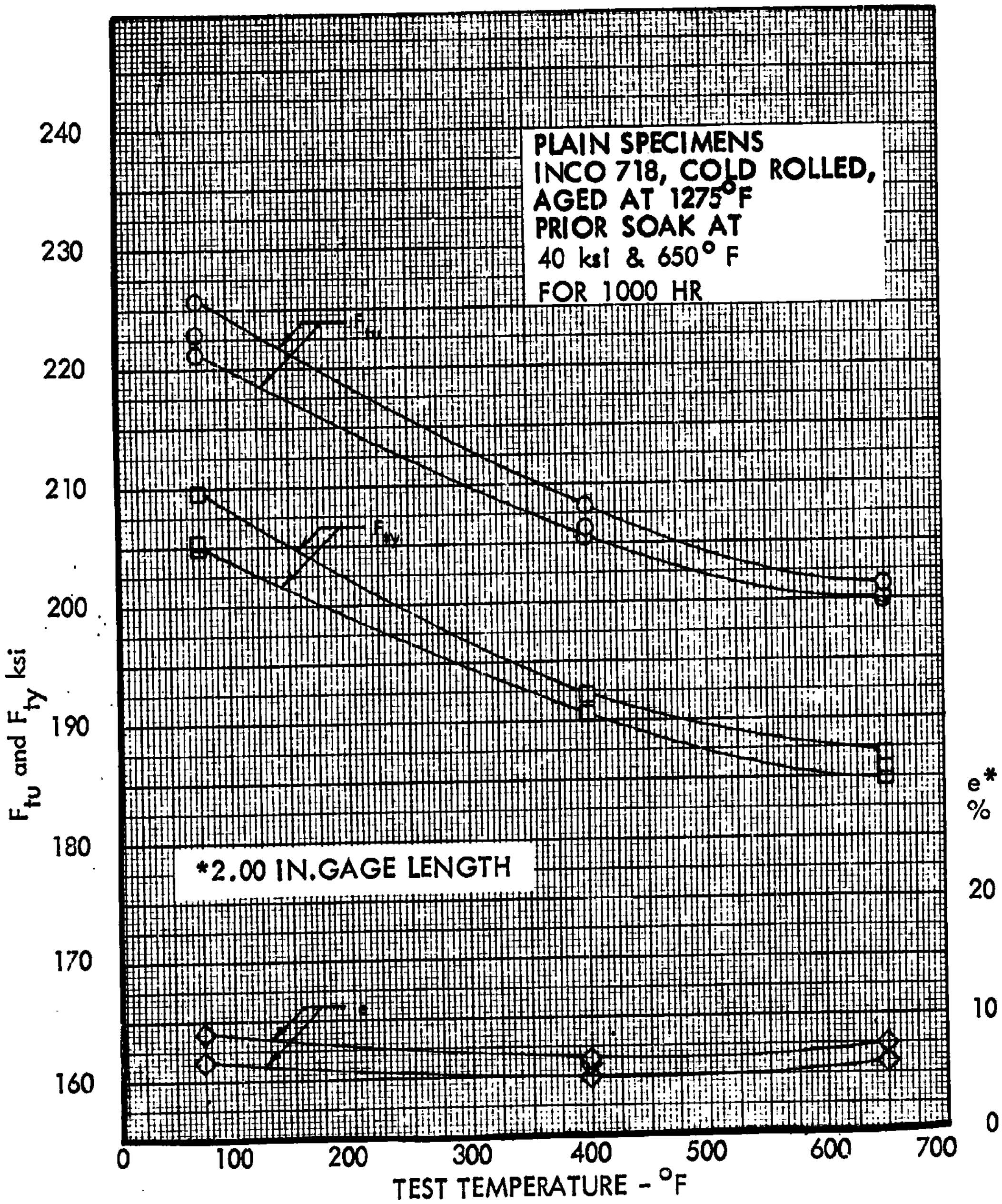


Figure 20. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, INCO 718

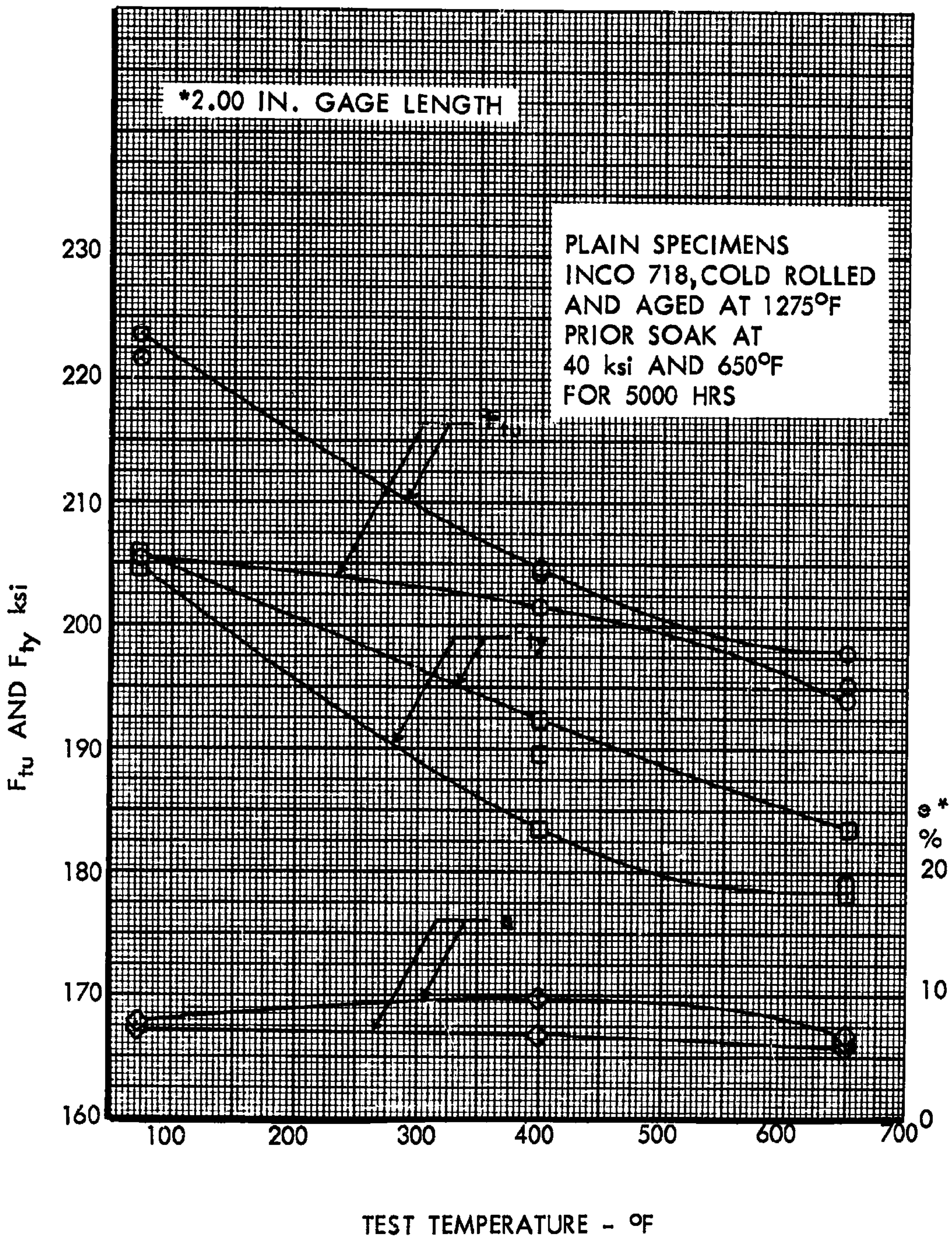


Figure 21. F_{tu}, F_{ty} and e vs. Test Temperature, Plain Specimens, INCO 718

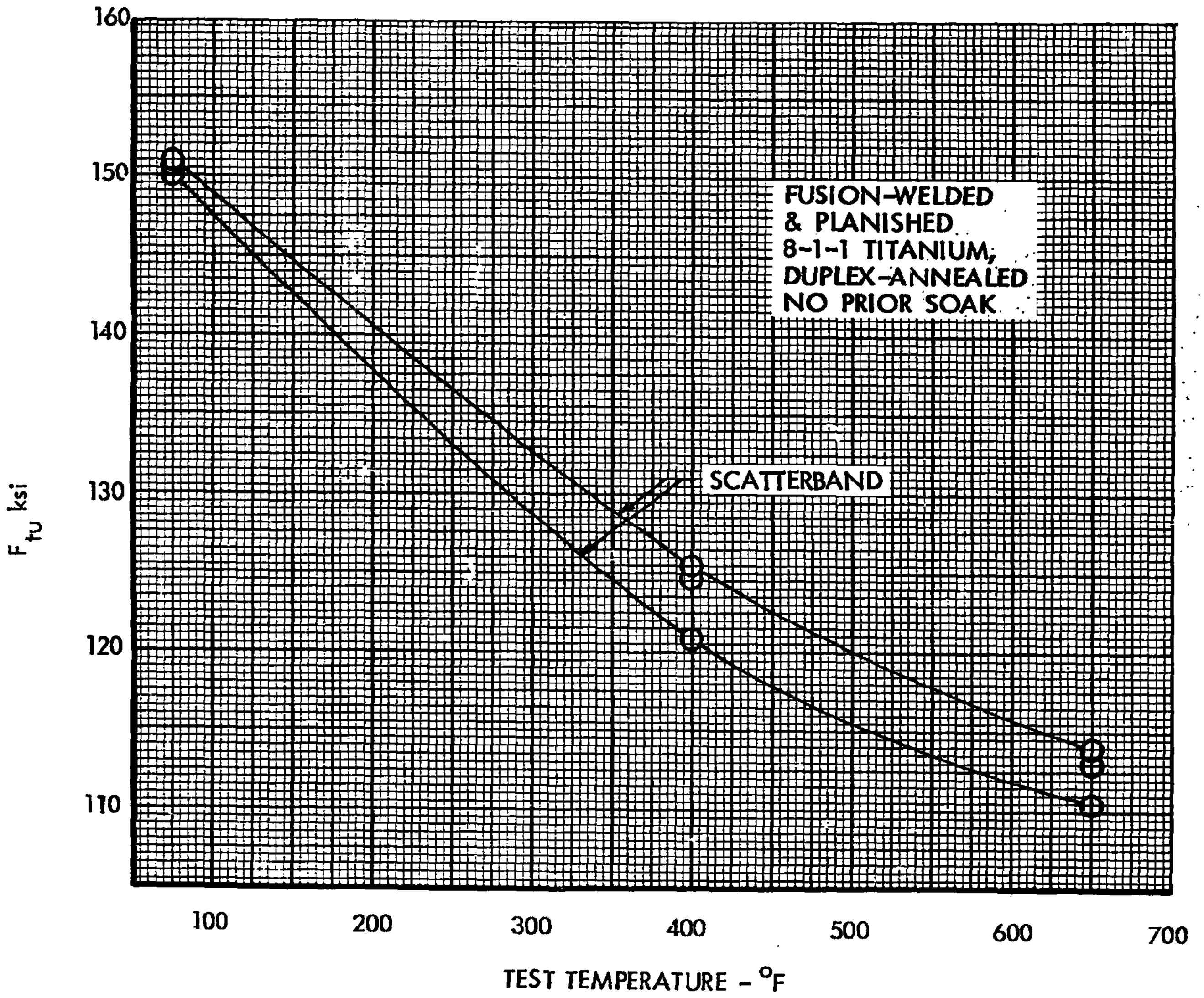


Figure 22. F_{tu} vs. Test Temperature, Fusion-Welded 8-1-1 Titanium

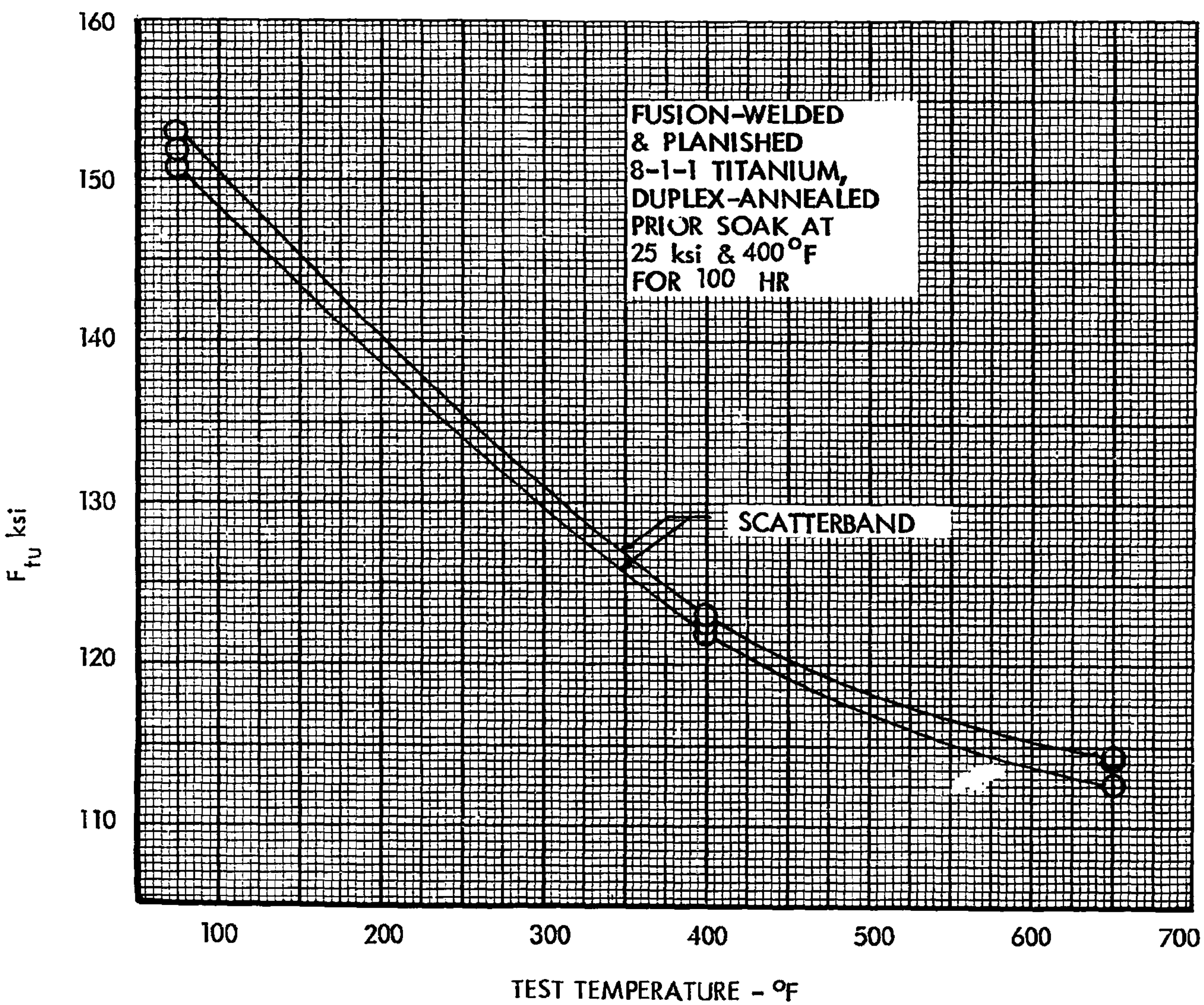


Figure 23. F_{tu} vs. Test Temperature, Fusion-Welded 8-1-1 Titanium

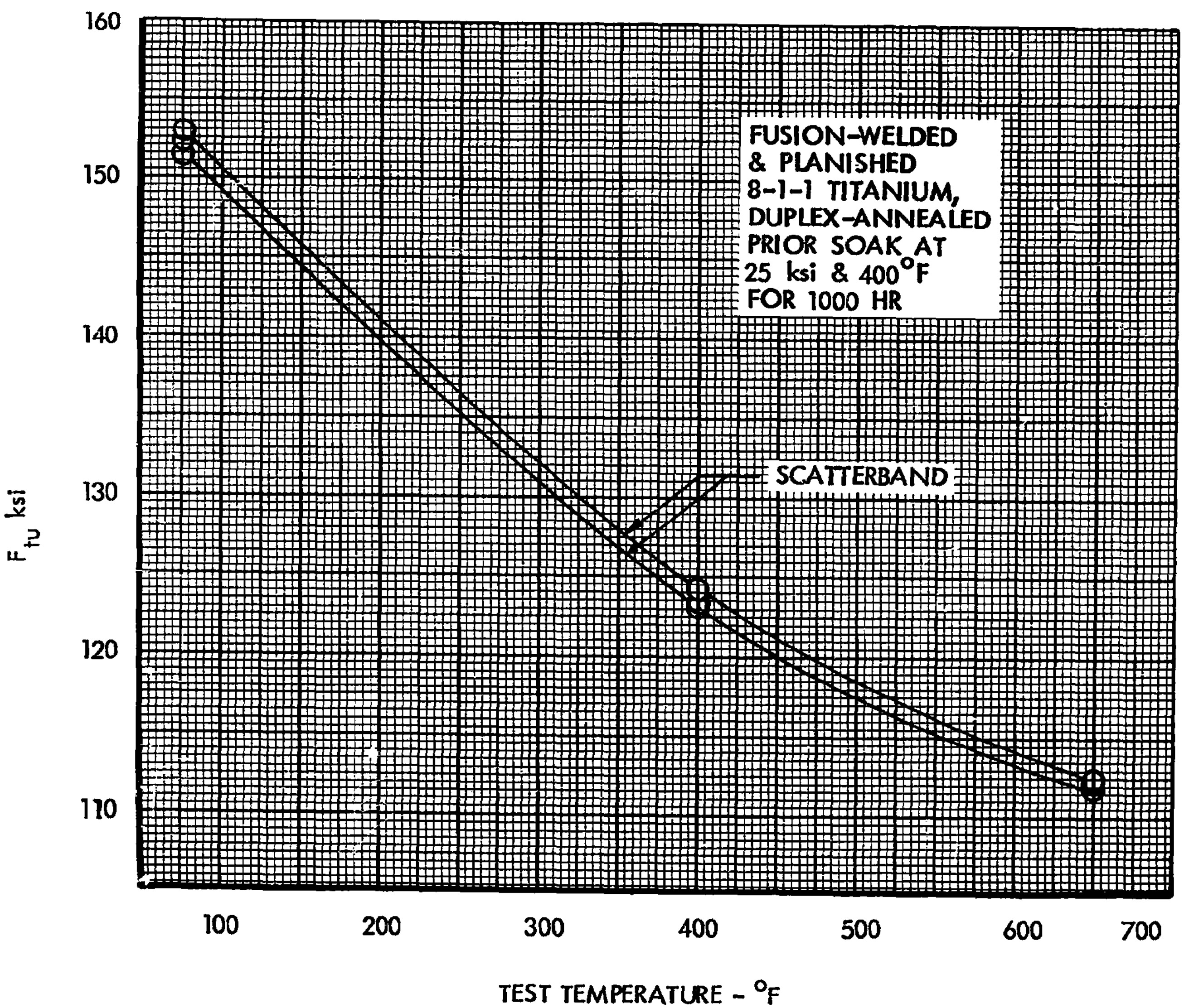


Figure 24. F_{tu} vs. Test Temperature, Fusion-Welded 8-1-1 Titanium

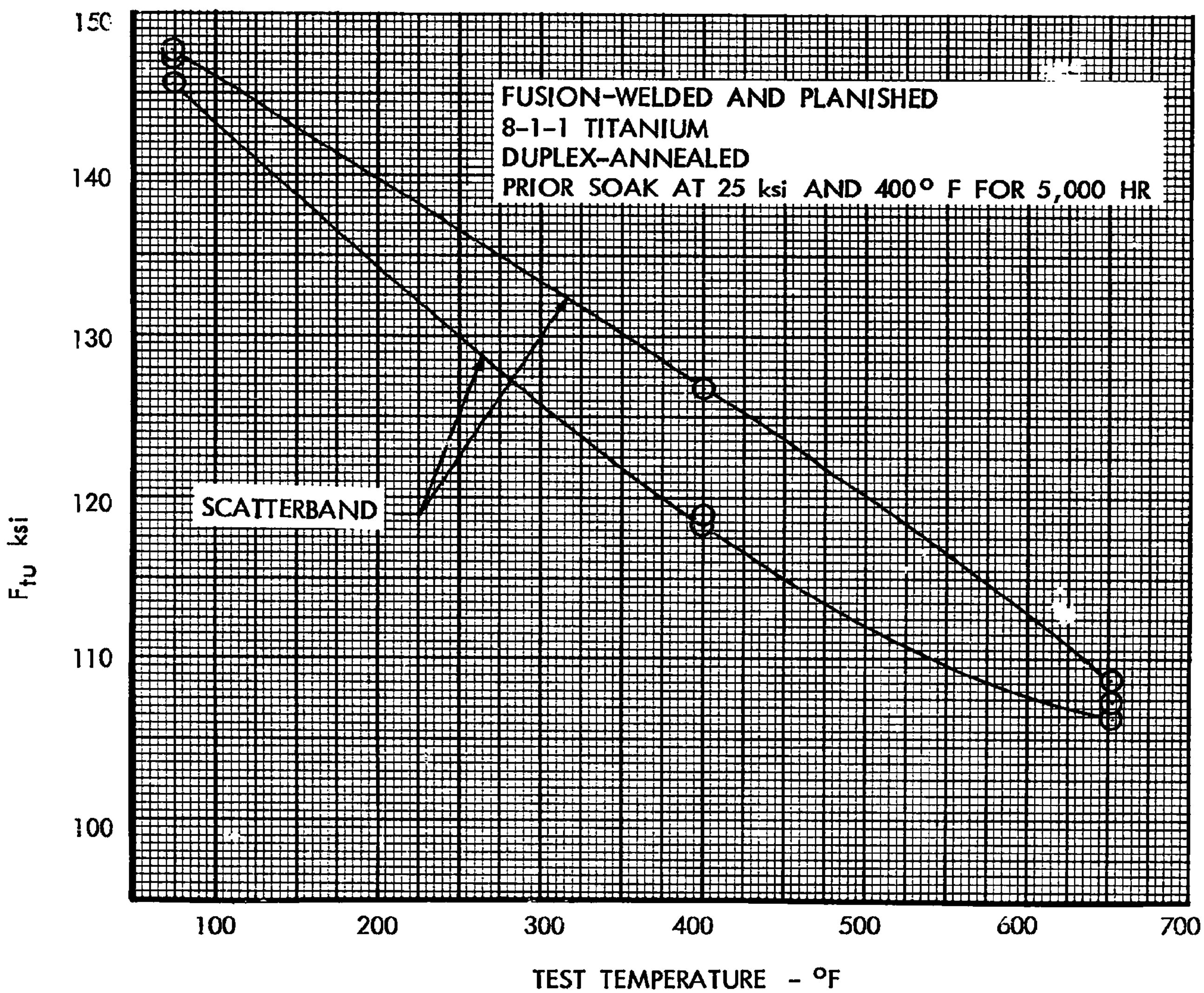


Figure 25. F_{tu} vs. Test Temperature, Fusion-Welded 8-1-1 Titanium

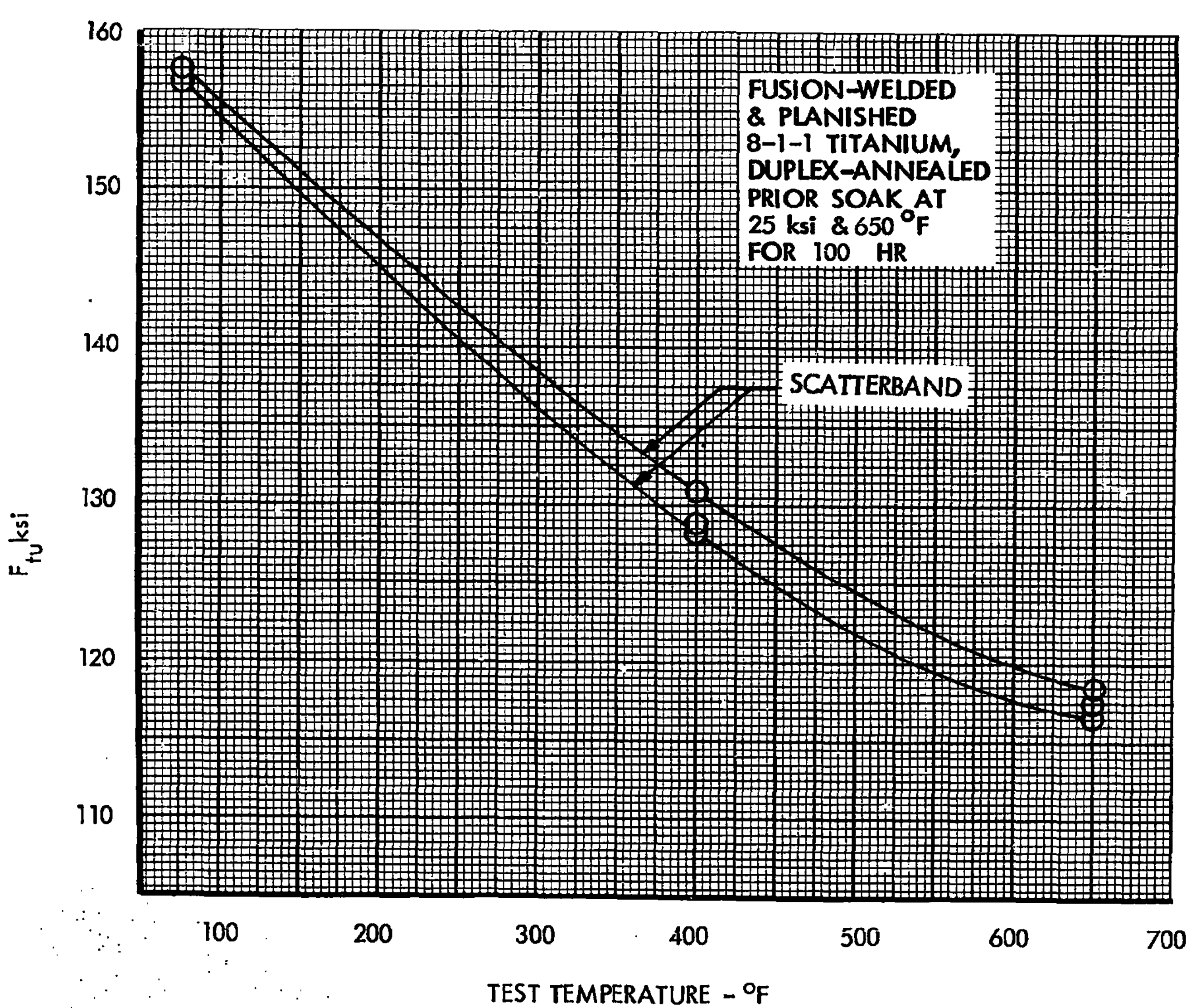


Figure 26. F_{tu} vs. Test Temperature, Fusion-Welded 8-1-1 Titanium

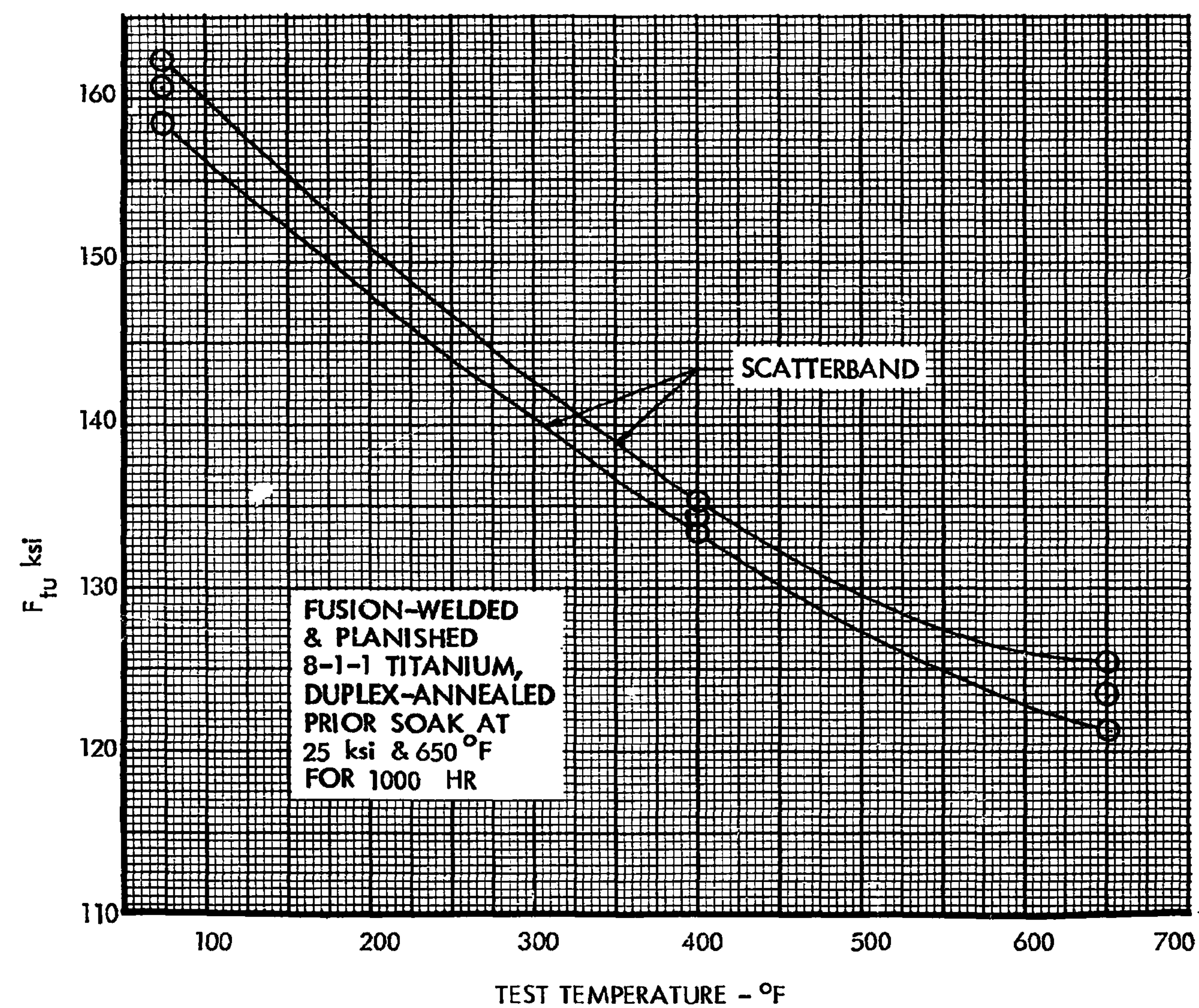


Figure 27. F_{tu} vs. Test Temperature, Fusion-Welded 8-1-1 Titanium

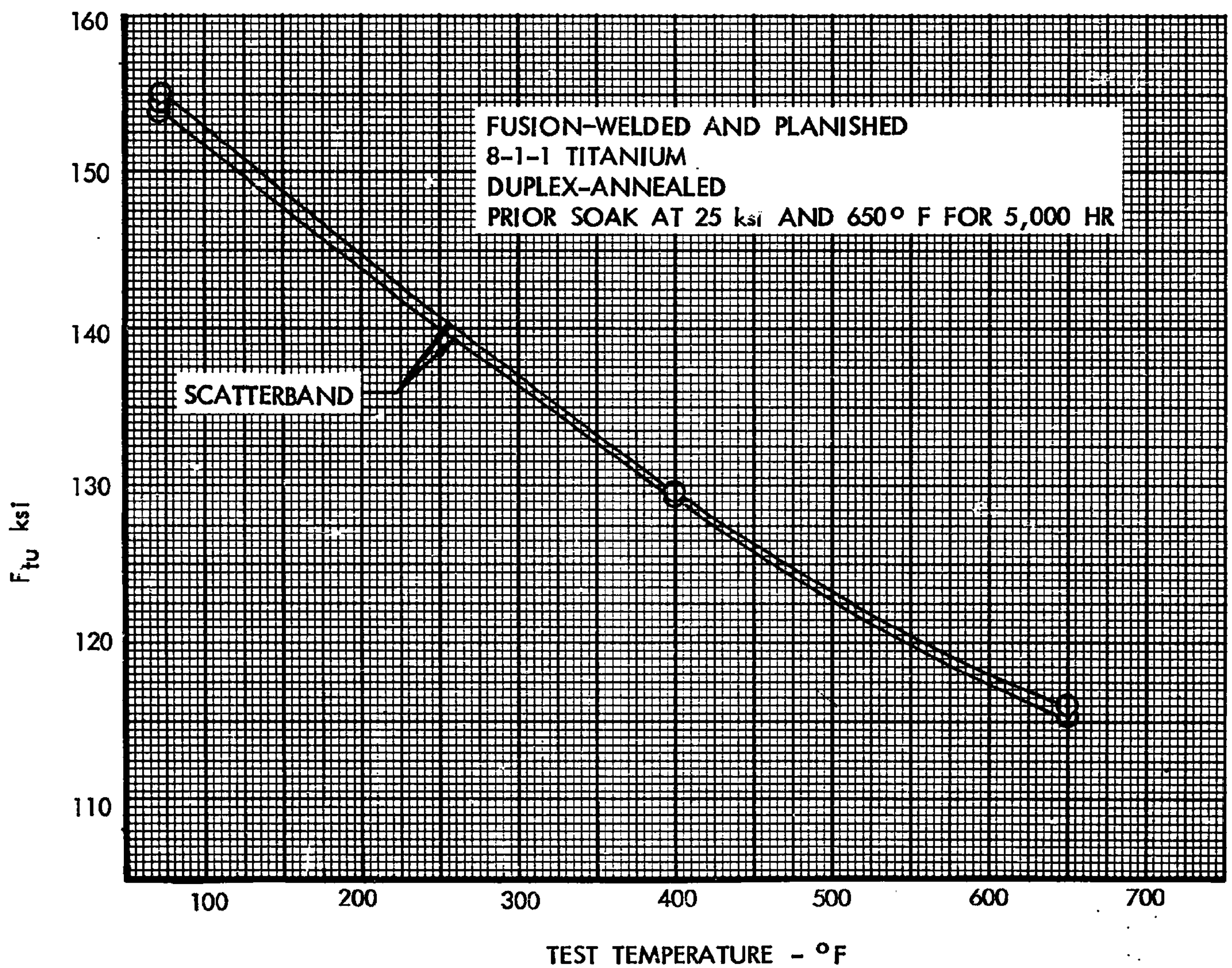


Figure 28. F_{tu} vs. Test Temperature, Fusion-Welded 8-1-1 Titanium

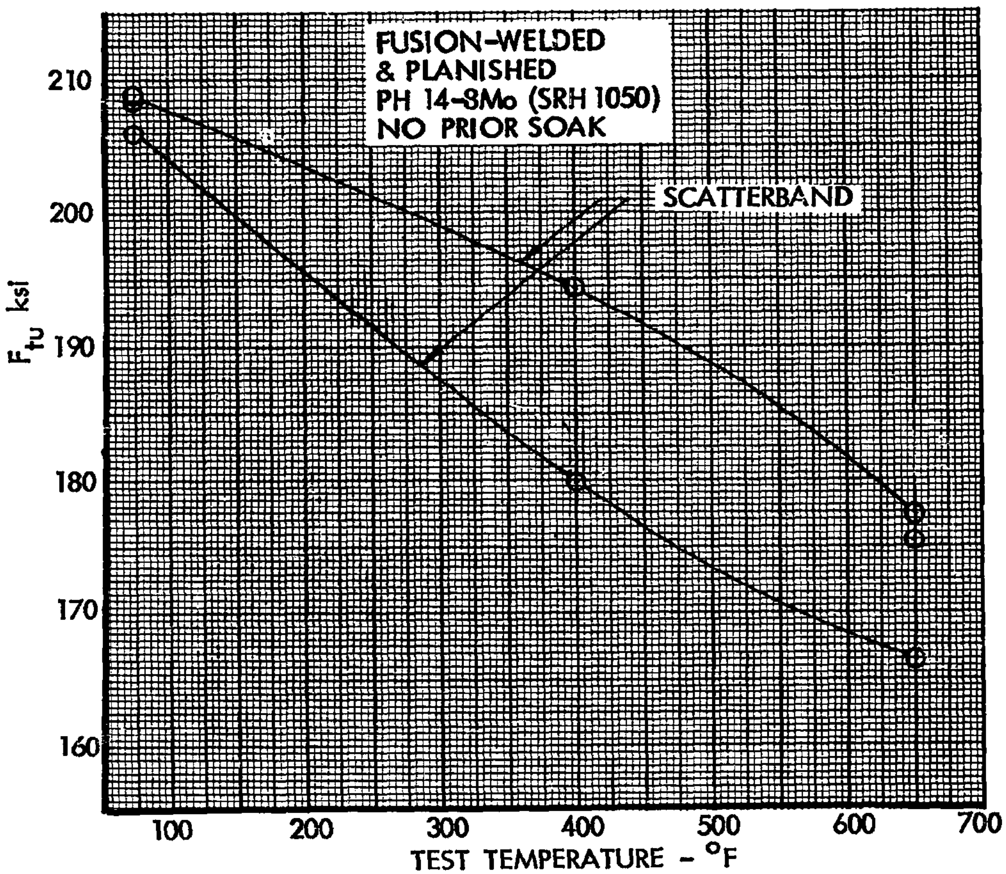


Figure 29. F_{tu} vs. Test Temperature, Fusion-Welded PH 14-8Mo

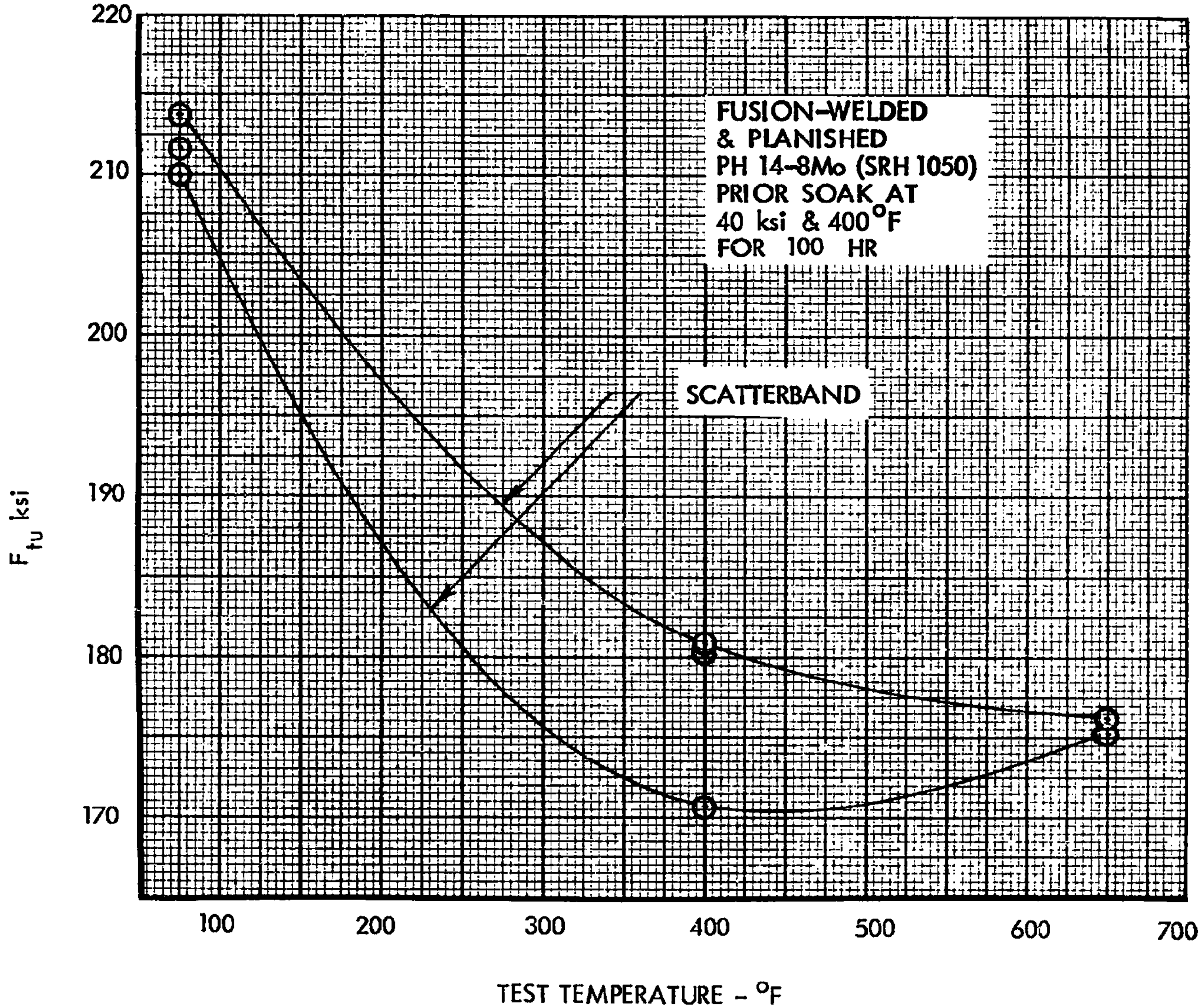


Figure 30. F_{tu} vs. Test Temperature, Fusion-Welded PH 14-8Mo

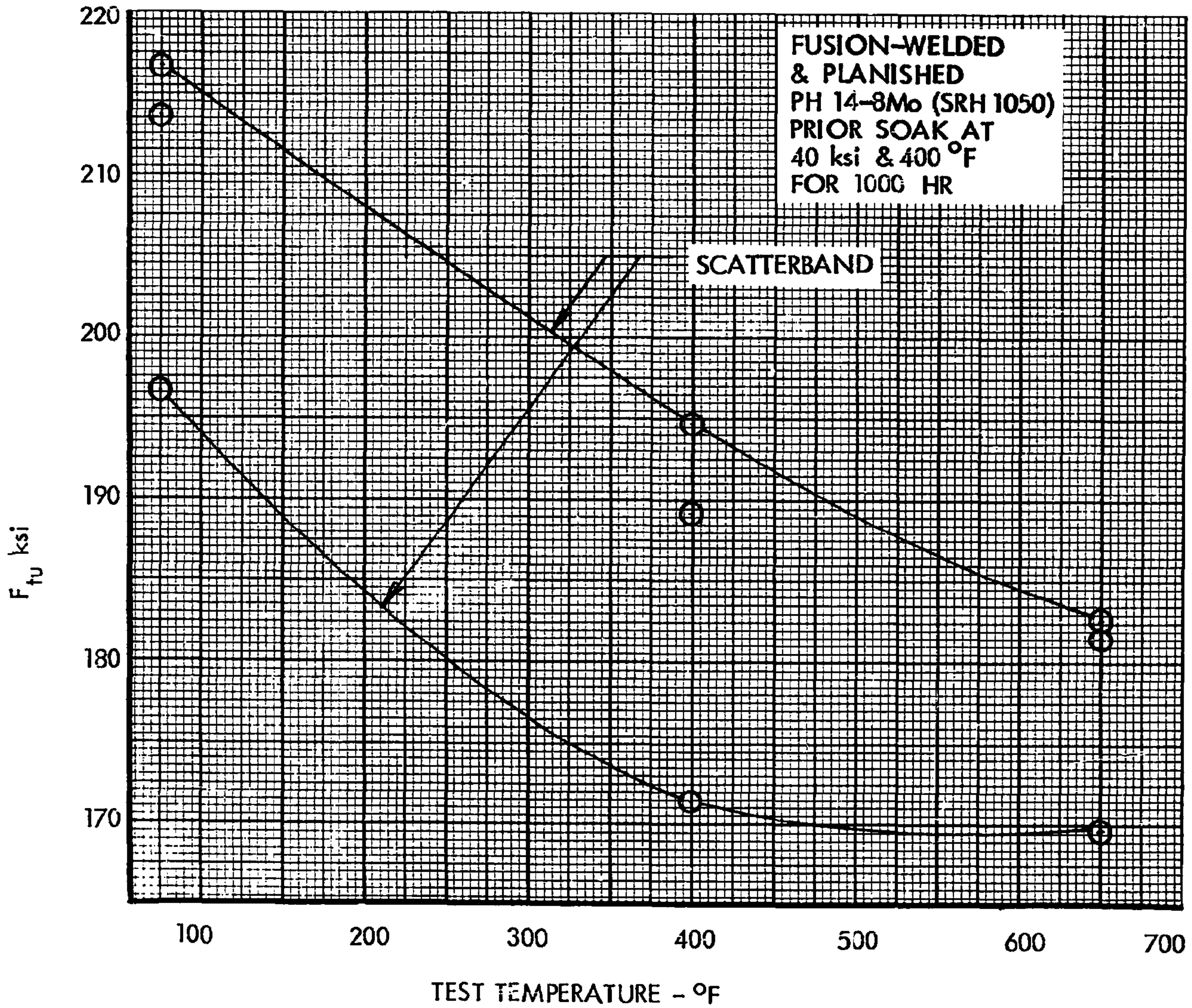


Figure 31. F_{tu} vs. Test Temperature, Fusion-Welded PH 14-8Mo

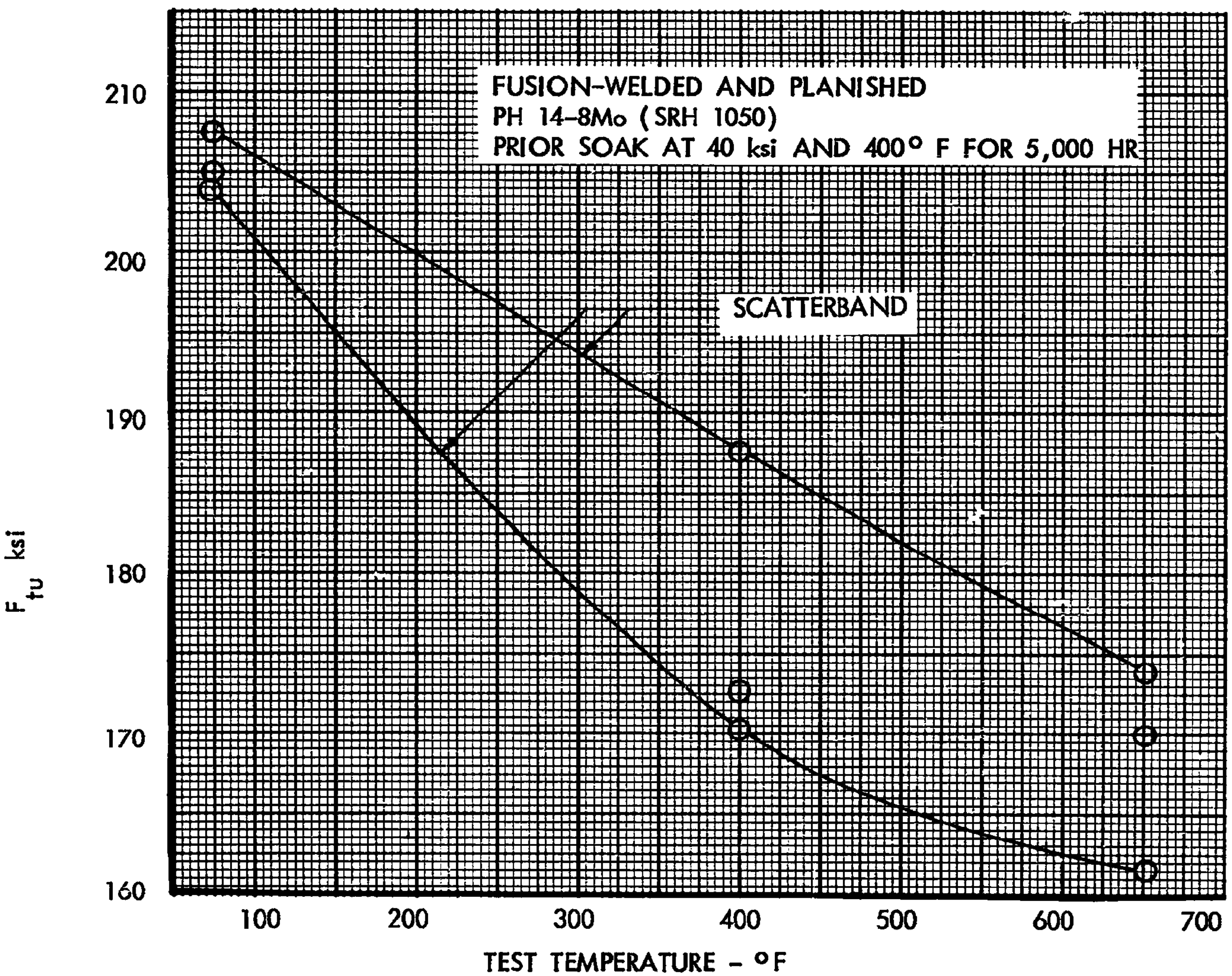


Figure 32. F_{tu} vs. Test Temperature, Fusion-Welded PH 14-8Mo

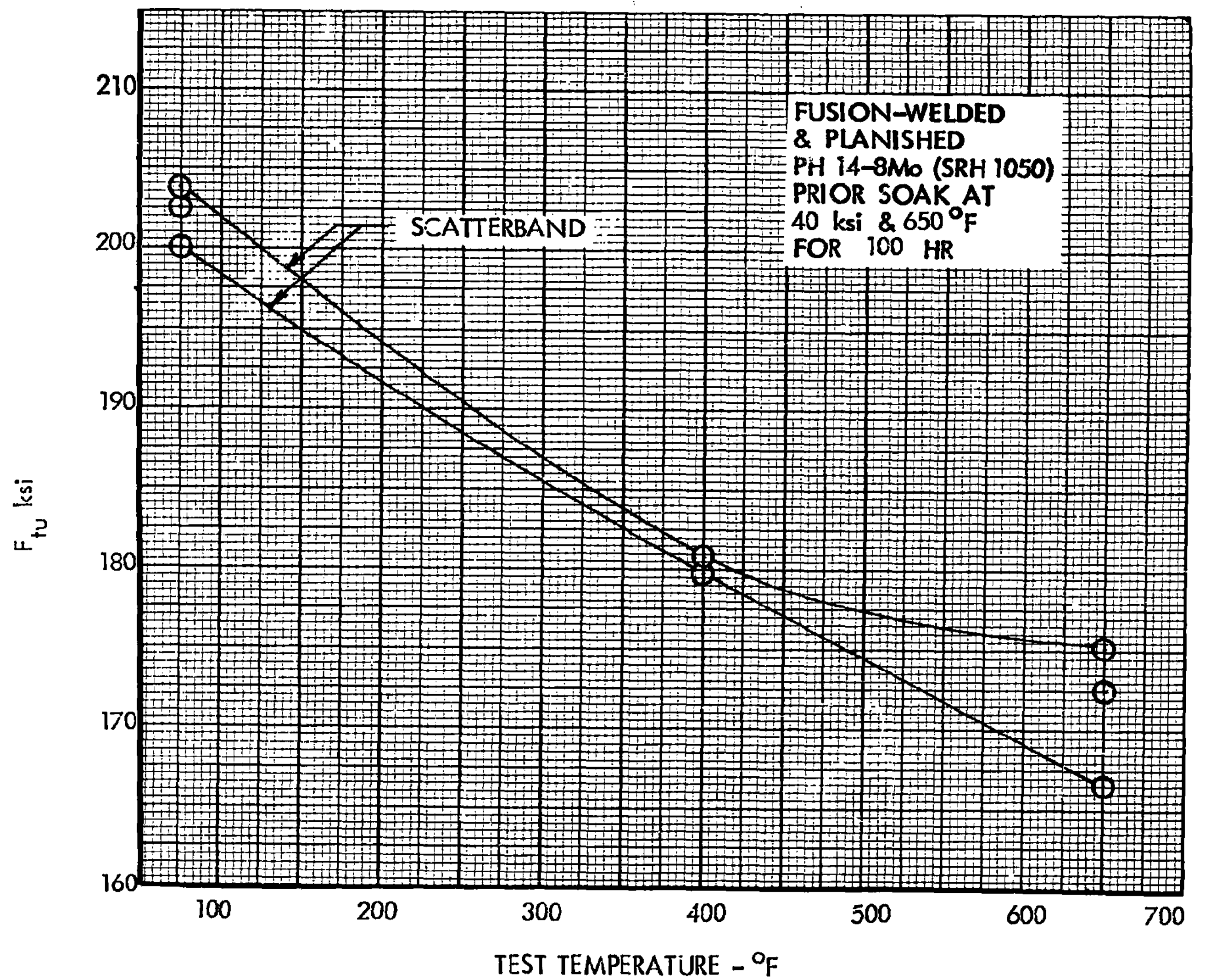


Figure 33. F_{tu} vs. Test Temperature, Fusion-Welded PH 14-8Mo

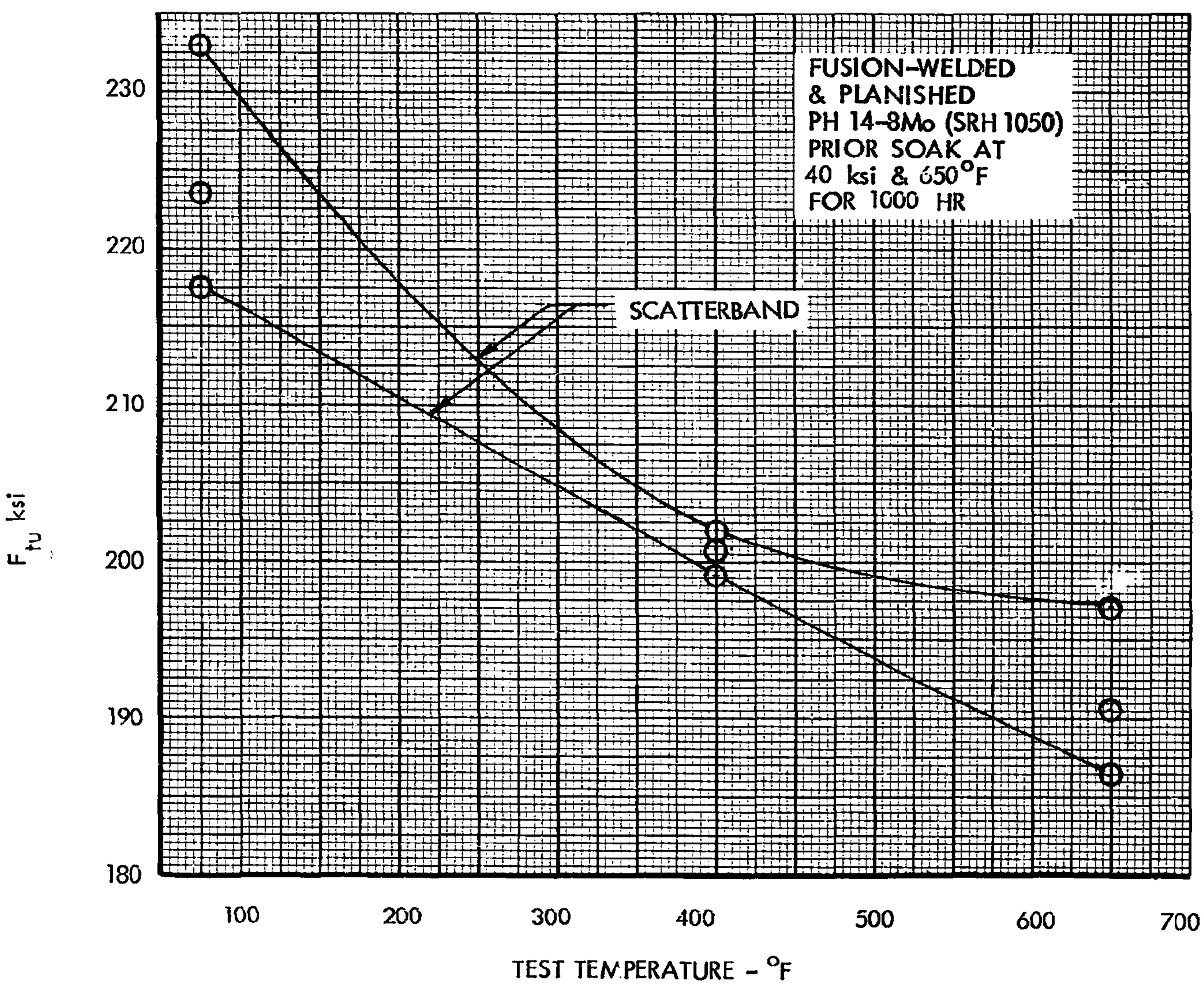


Figure 34. F_{tu} vs. Test Temperature, Fusion-Welded PH 14-8Mo

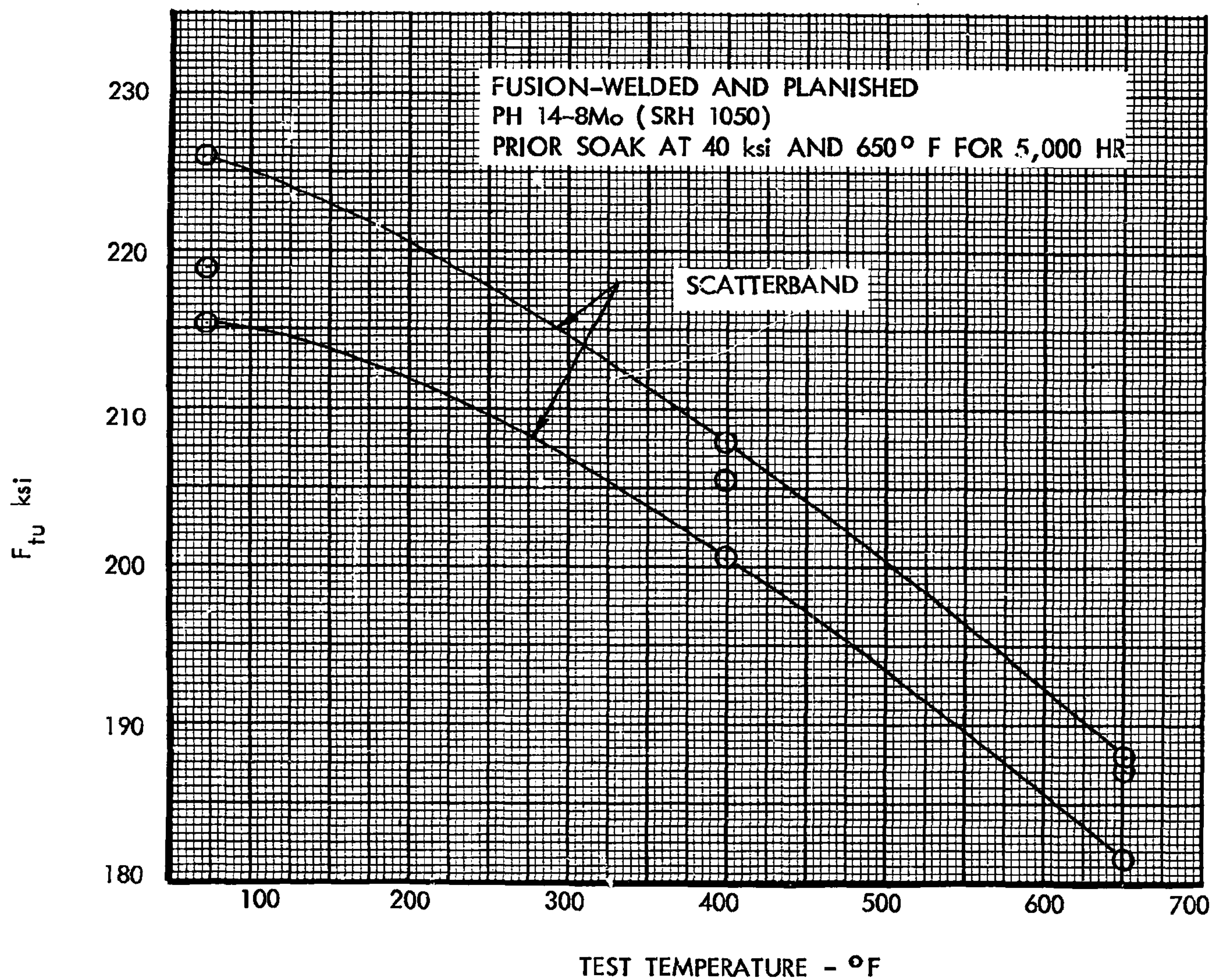


Figure 35. F_{tu} vs. Test Temperature, Fusion-Welded PH 14-8Mo

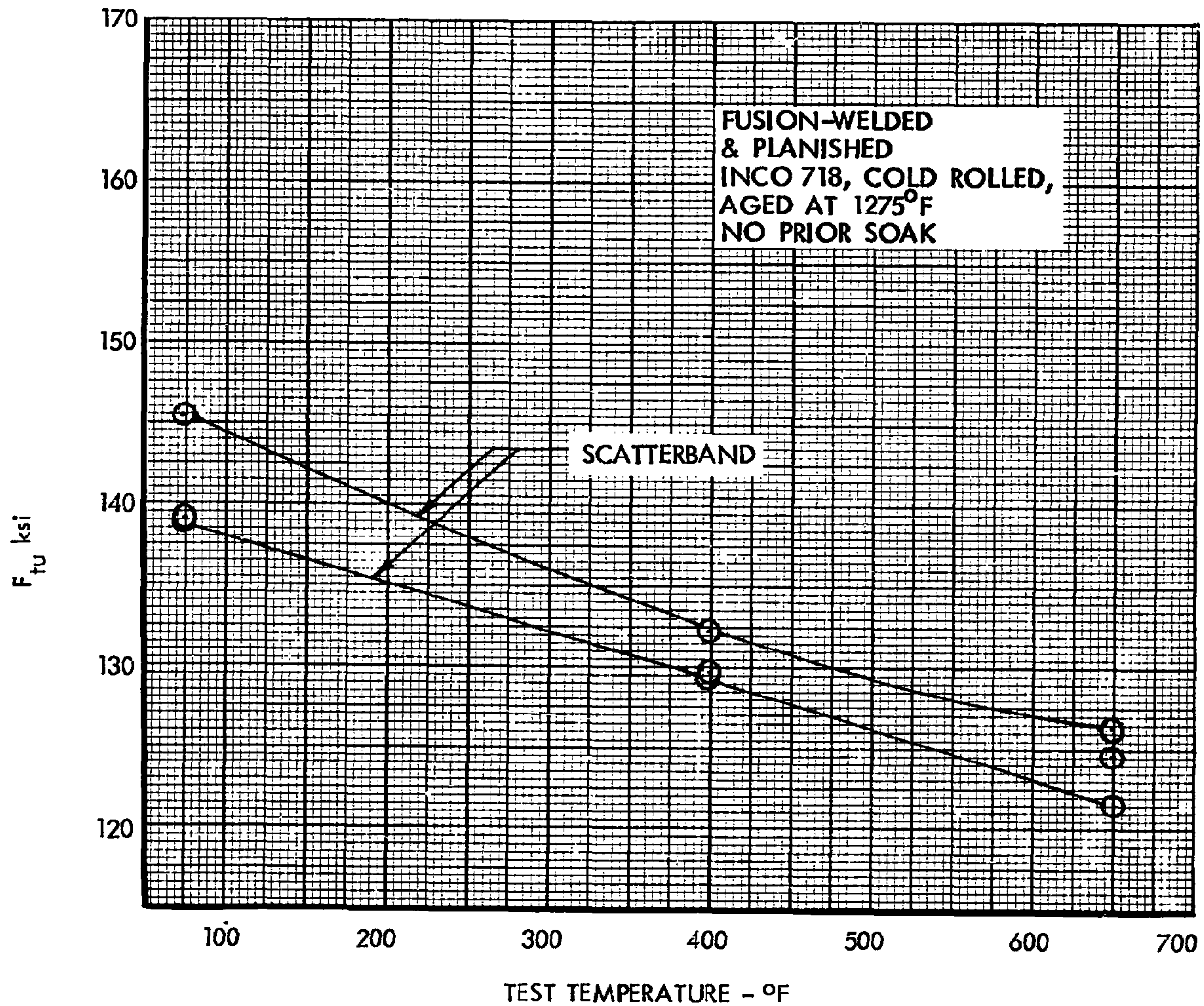


Figure 36. F_{tu} vs. Test Temperature, Fusion-Welded INCO 718

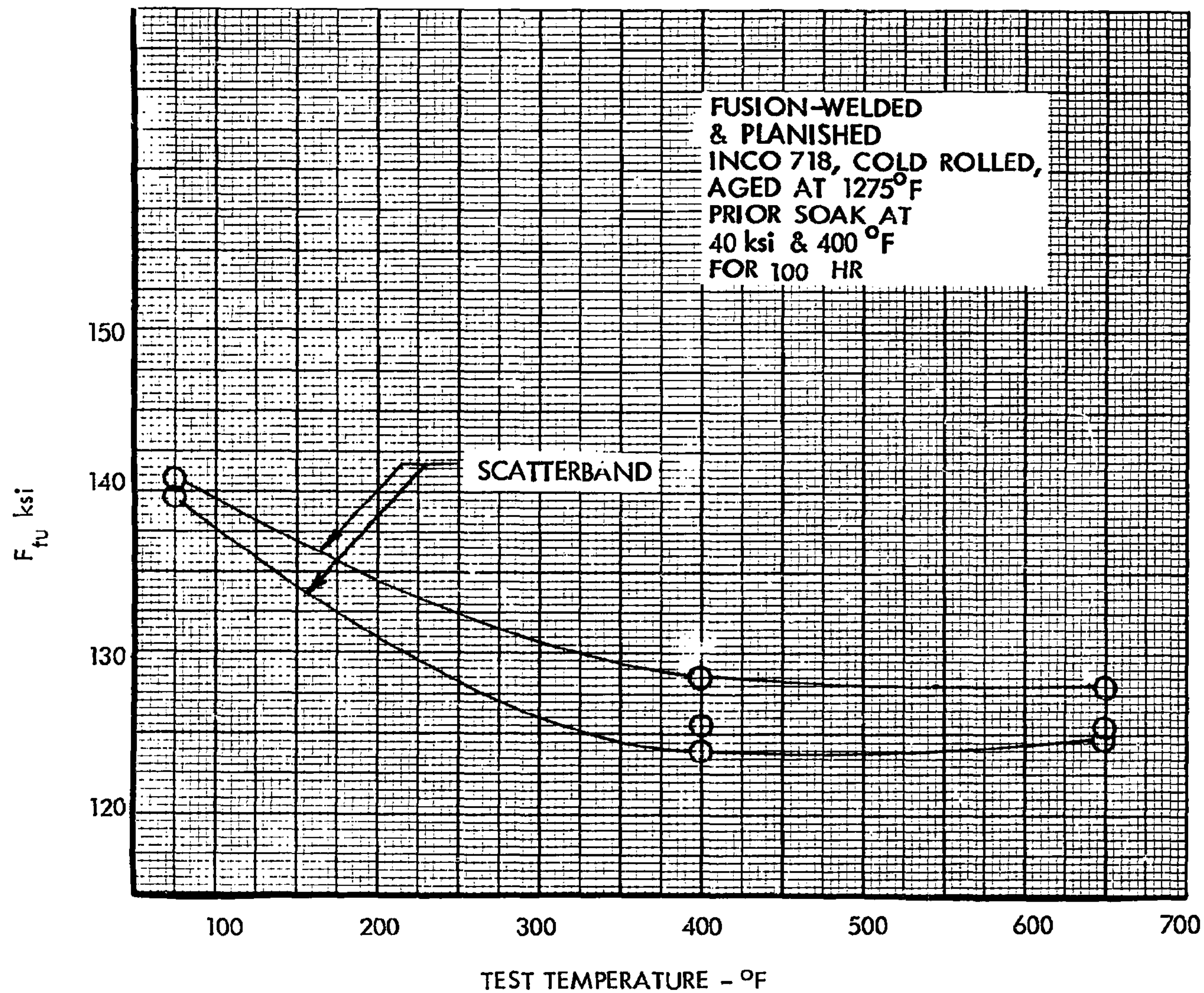


Figure 37. F_{tu} vs. Test Temperature, Fusion-Welded INCO 718

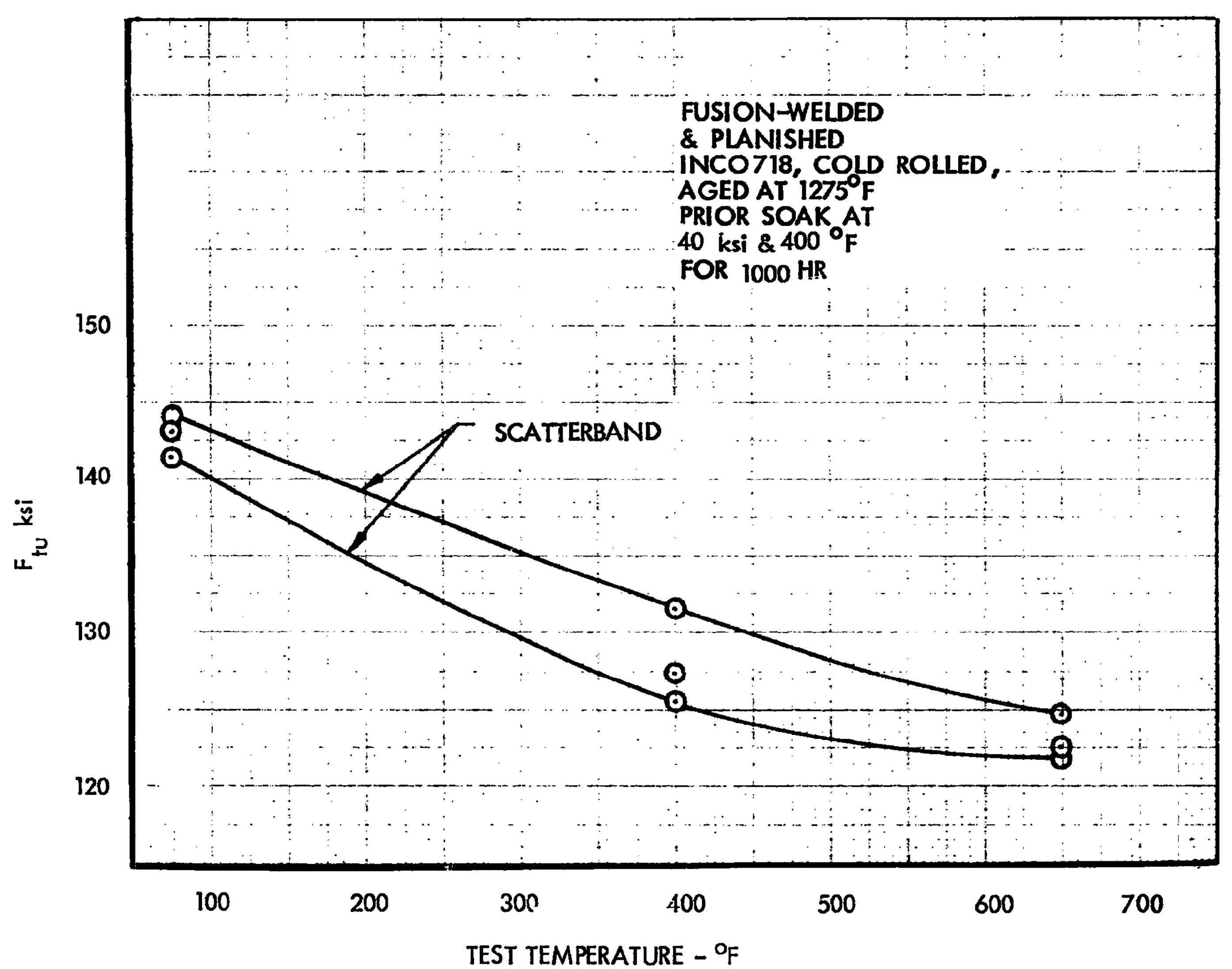


Figure 38. F_{tu} vs. Test Temperature, Fusion-Welded INCO 718

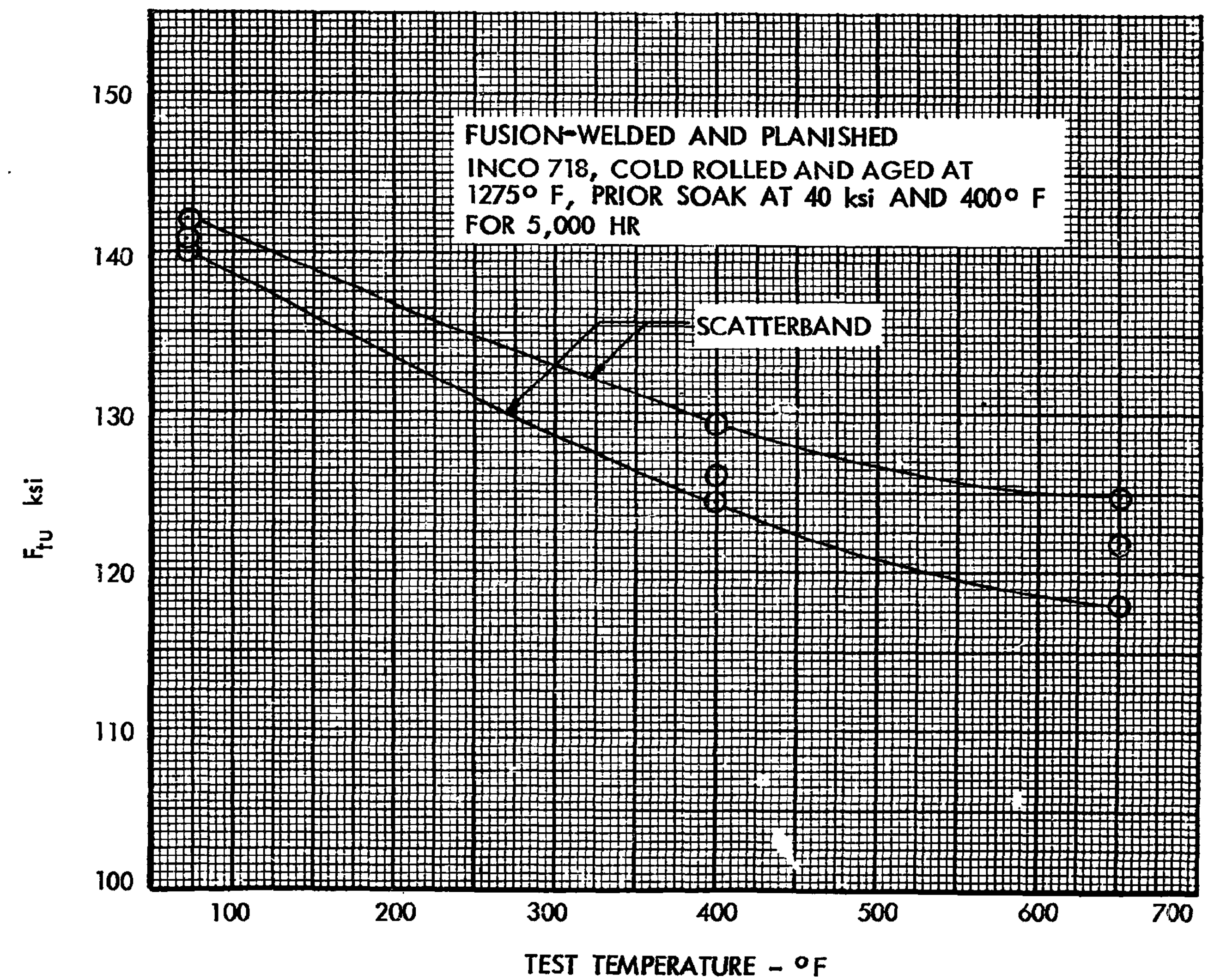


Figure 39. F_{tu} vs. Test Temperature, Fusion-Welded INCO 718

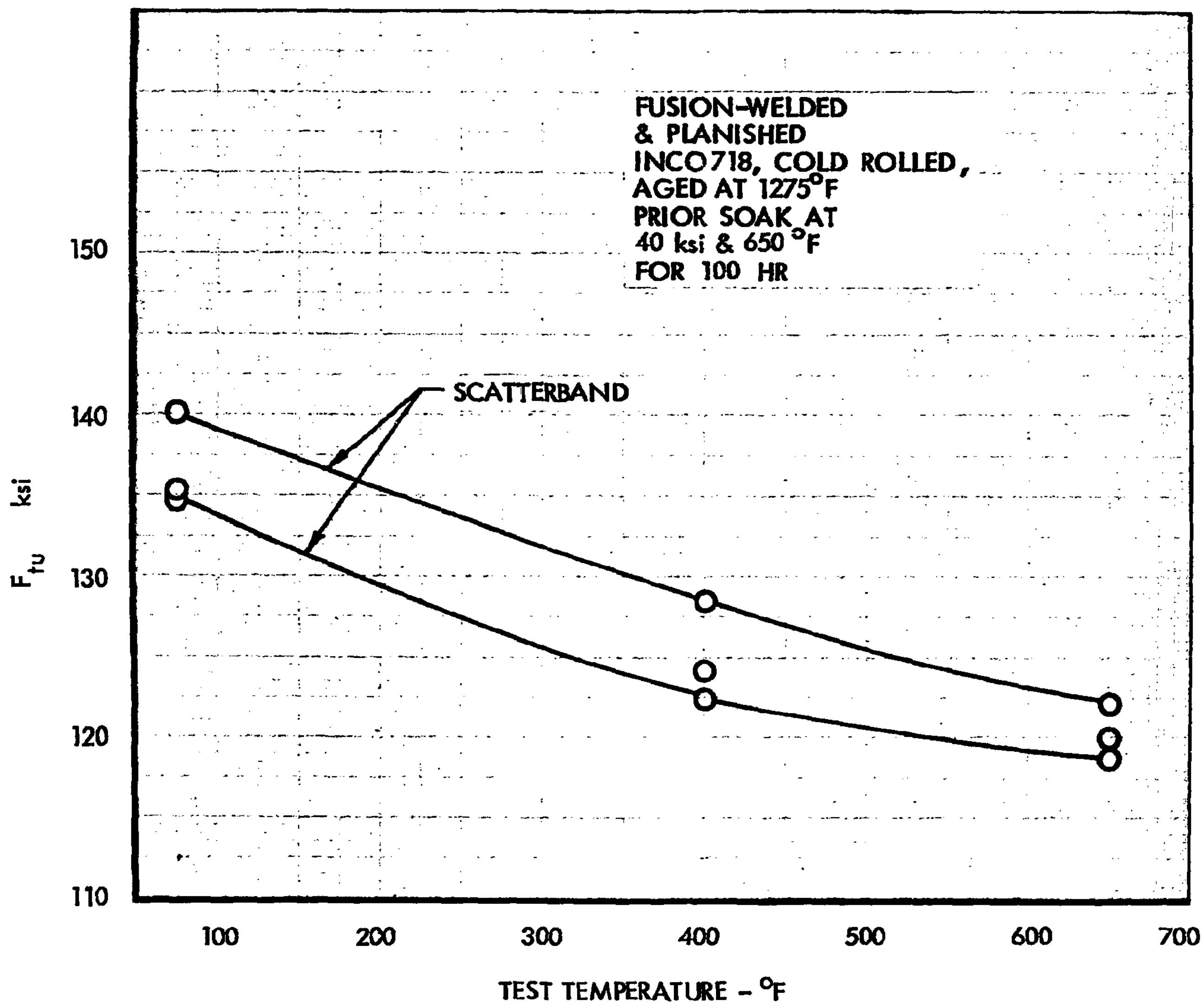


Figure 40. F_{tu} vs. Test Temperature, Fusion-Welded INCO 718

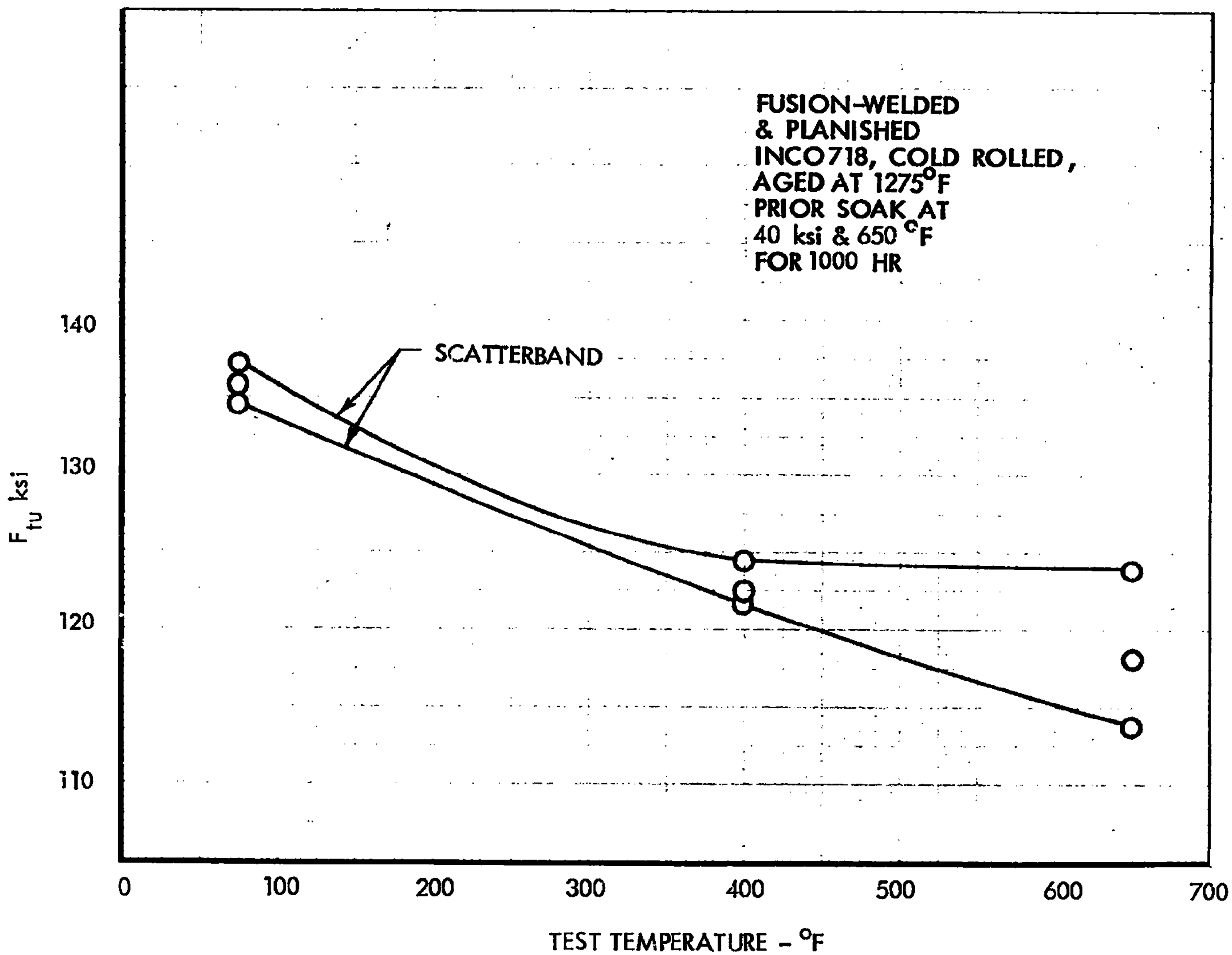


Figure 41. F_{tu} vs. Test Temperature, Fusion-Welded INCO 718

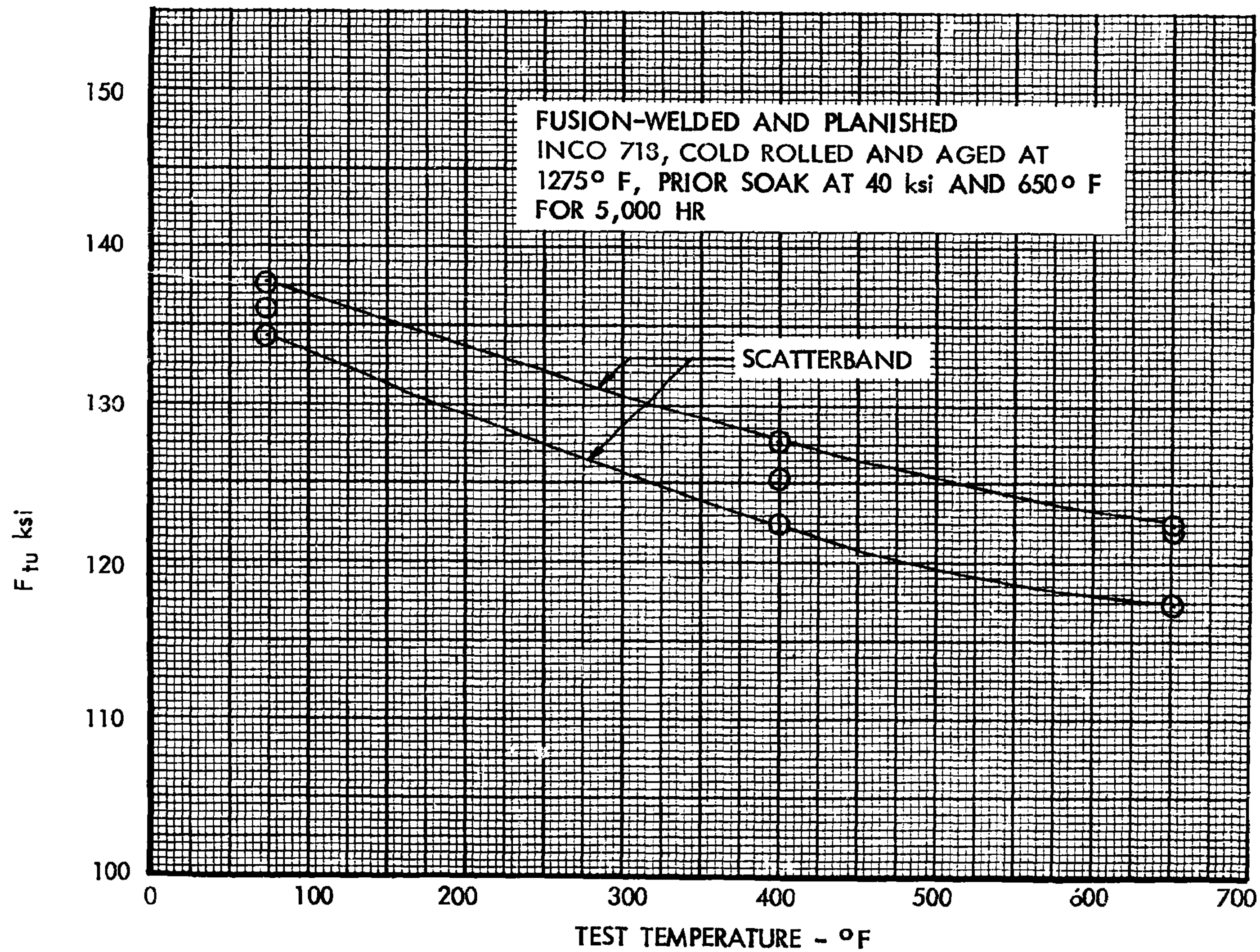


Figure 42. F_{tu} vs. Test Temperature, Fusion-Welded INCO 718

SECTION 4

FATIGUE TEST DATA

The locations of the tabulated and plotted S-N data and S-N diagrams in this section are listed in Tables 2, 3 and 4.

In Tables 10 through 198, the temperature, time, and stress levels following soak indicate preconditioning of the specimens prior to testing. For example, an entry of 650°F/1,000 hr/40 ksi means that the specimens were exposed at 40 ksi and 650°F for 1000 hours prior to testing.

In the development of the S-N diagrams, the N = 1 lines were based on average static tensile strengths of the plain and fusion-welded specimens for the appropriate exposure condition.

TABLE 10 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: None
Test Temp: Room

Test 1 Stress Ratio = 0.1			Test 2 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	90	5,400	1	70	3,600
2	80	7,380	2	65	4,320
3	70	18,200	3	60	11,700
4	65	21,600	4	55	12,800
5	60	29,700	5	50	20,900
6	55	67,700	6	45	33,120
7	50	53,600	7	40	97,740
8	47.5	1,342,300	8	35	795,400
9	47.5	1,496,160	9	33	810,900
10	45	1,489,200	10	30	2,332,400
11	42.5	3,776,000	11	28	3,763,400
12	40	1,579,200	12	25	10,629,000
13	38	1,475,300			
14	36	1,365,300			
15	34	10,000,000**			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 11 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: None
Test Temp: 400°F

Test 3 Stress Ratio = 0.1			Test 4 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	75	7,920	1	70	2,520
2	70	14,920	2	60	3,600
3	65	19,800	3	50	5,760
4	60	15,300	4	47	14,760
5	55	26,460	5	45	16,740
6	50	52,560	6	43	27,720
7	45	1,506,600	7	40	42,120
8	40	3,046,140	8	35	598,680
9	36	2,775,600	9	33	3,538,800
10	33.5	6,750,000**	10	30	5,488,200
11	33	4,199,400	11	26	8,750,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 12 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: None
Test Temp: 650°F

Test 5 Stress Ratio = 0.1			Test 6 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	3,600	1	60	3,960
2	70	6,660	2	55	3,960
3	60	14,040	3	50	7,920
4	57.5	25,380	4	44	11,880
5	55	100,000	5	42	10,800
6	55	28,800	6	40	24,840
7	54	21,600	7	38	55,080
8	52	12,420	8	36	20,340
9	50	622,440	9	35	367,200
10	50	107,820	10	32.5	8,000,000**
11	50	119,700			
12	45	203,400			
13	42.5	144,900			
14	40	10,000,000**			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 13 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 400°F/100 hr/25 ksi
Test Temp: Room

Test 7 Stress Ratio = 0.1			Test 8 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	10,260	1	70	3,240
2	70	14,220	2	60	8,600
3	65	16,920	3	55	12,240
4	60	25,740	4	50	20,900
5	55	66,420	5	45	49,900
6	50	161,640	6	42.5	41,400
7	47.5	1,213,920	7	40	35,280
8	45	679,000	8	40	908,640
9	42.5	450,900	9	37.5	383,400
10	40	3,661,200	10	35	735,300
11	37.5	3,194,640	11	35	1,295,640
12	35	6,534,000	12	30	7,124,400

* Gross area stress: Net area stress = 1.2 gross area stress

TABLE 14 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 400°F/100 hr/25 ksi
Test Temp: 400°F

Test 9 Stress Ratio = 0.1			Test 10 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	4,860	1	60	4,860
2	75	8,640	2	55	8,460
3	70	11,340	3	50	13,680
4	65	14,220	4	45	29,340
5	60	17,280	5	40	40,680
6	55	38,700	6	38	61,920
7	50	40,320	7	35	322,000
8	47	349,200	8	30	730,800
9	45	1,260,000	9	25	1,215,000**
10	42	626,940	10	25	5,000,000***
11	40	2,380,860	11	20	9,000,000***
12	36	5,191,200			

* Gross area stress: Net area stress = 1.2 gross area stress
** Failed at the clamp
*** No failure

TABLE 15 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 400°F/100 hr/25 ksi
Test Temp: 650°F

Test 11 Stress Ratio = 0.1			Test 12 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	65	7,560	1	50	5,040
2	60	9,360	2	45	12,420
3	58	17,640	3	40	17,100
4	55	20,520	4	38	25,560
5	54	20,880	5	36	32,580
6	52	240,120	6	35	441,720
7	50	210,420	7	33	829,080***
8	45	804,600	8	30	2,576,340
9	40	3,864,600	9	25	630,360
10	35	5,648,400	10	20	7,500,000**
11	30	8,000,000**			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure
*** Failed at the clamp

TABLE 16 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 400°F/1,000 hr/25 ksi
Test Temp: Room

Test 13 Stress Ratio = 0.1			Test 14 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	6,660	1	60	7,740
2	70	16,920	2	55	12,780
3	60	31,140	3	50	14,580
4	55	507,040	4	45	22,860
5	55	82,200	5	40	37,620
6	50	98,820**	6	37.5	59,400
7	50	927,000	7	36	1,089,000**
8	47.5	1,420,560	8	35	5,108,000
9	45	1,096,200	9	34	1,625,000**
10	42	4,078,080	10	34	48,000
11	40	883,800	11	30	20,000,000***
12	35	14,700,000***			

* Gross area stress: Net area stress = 1.2 gross area stress
** Failed at the clamp
*** No failure

TABLE 17 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 400°F/1,000 hr/25 ksi
Test Temp: 400°F

Test 15 Stress Ratio = 0.1			Test 16 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	6,660	1	60	5,760
2	75	9,360	2	55	10,080
3	70	12,960	3	50	14,400
4	65	16,200	4	45	21, 60
5	60	28,800	5	40	40,500
6	55	45,900	6	37	57,780
7	50	297,360	7	35	700,560
8	45	602,640	8	30	3,123,000
9	40	1,498,500	9	25	2,217,600***
10	35	724,500	10	24	6,550,200
11	30	9,000,000**			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure
*** Failed at the clamp

TABLE 18 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 400°F/1,000 hr/25 ksi
Test Temp: 650°F

Test 17, Stress Ratio = 0.1			Test 18, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	70	7,560	1	50	5,400
2	65	6,120	2	47	12,420
3	60	12,600	3	45	9,180
4	55	25,380	4	43	25,560
5	53	25,200	5	40	28,260
6	51	95,940	6	38	100,620
7	50	345,780	7	35	1,851,112
8	45	546,660	8	32	2,772,900
9	40	5,950,800	9	30	714,420
10	35	8,500,000**	10	26	3,247,200
			11	22	7,500,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 19 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 400°F/5,000 hr/25 ksi
Test Temp: Room

Test 19 Stress Ratio = 0.1			Test 20 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	8,280	1	65	3,420
2	70	15,120	2	60	9,180
3	60	23,940	3	55	11,700
4	55	700,200	4	50	12,240
5	50	58,880	5	45	23,040
6	47	2,600,000**	6	41.5	33,660
7	45	2,188,440	7	40	44,820
8	40	744,300	8	38	1,877,940
9	37	5,579,100	9	35	4,577,040***
10	35	8,200,000**	10	33	918,000***
			11	30	275,000***
			12	30	7,500,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure
*** Failed at the clamp

TABLE 20 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 400°F/5,000 hr/25 ksi
Test Temp: 400°F

Test 21 Stress Ratio = 0.1			Test 22 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	4,140	1	55	6,660
2	75	5,940	2	50	11,520
3	70	10,260	3	45	22,140
4	65	14,580	4	40	25,380
5	60	21,600	5	38	28,080
6	55	25,200	6	36	27,720
7	50	78,840	7	35	90,180
8	45	365,400	8	34	546,660
9	40	670,320	9	32	499,320***
10	35	3,142,800	10	30	2,173,680
11	30	7,500,000**	11	26	6,510,960

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure
*** Failed at the clamp

TABLE 21 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 400°F/5,000 hr/25 ksi
Test Temp: 650°F

Test 23 Stress Ratio = 0.1			Test 24 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	66	9,180	1	50	5,040
2	62	9,360	2	48	9,180
3	60	17,640	3	45	9,720
4	58	11,520	4	42	20,880
5	55	15,300	5	40	16,380
6	52	21,960	6	38	45,180
7	50	207,900	7	35	370,440
8	48	197,640	8	32	1,723,320
9	45	231,660	9	30	2,729,700
10	40	3,074,760	10	25	11,400,000**
11	35	7,500,000 **			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 22 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 650°F/100 hr/25 ksi
Test Temp: Room

Test 25 Stress Ratio = 0.1			Test 26 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	90	6,300	1	90	1,800
2	80	8,600	2	80	2,520
3	75	11,900	3	70	4,140
4	70	31,140	4	60	7,740
5	65	28,100	5	55	9,720
6	60	34,740	6	50	21,600
7	57.5	37,800	7	45	31,320
8	55	228,780	8	40	44,100
9	55	40,500	9	40	1,116,180
10	52.5	1,866,960	10	37.5	119,200
11	50	1,998,700	11	35	6,345,000
12	45	4,084,200	12	30	14,500,000**
13	42.5	2,253,601			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 23 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 650°F/100 hr/25 ksi
Test Temp: 400°F

Test 27
Stress Ratio = 0.1

Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	3,420
2	75	7,920
3	70	11,700
4	65	15,660
5	60	20,880
6	55	87,660
7	50	348,480
8	45	1,574,820
9	40	2,566,080
10	35	6,415,200

Test 28
Stress Ratio = -0.5

Specimen Number	f_{max} (ksi)*	Applied Cycles
1	60	[illegible],860
2	55	8,100
3	50	12,600
4	45	23,760
5	40	39,060
6	35	61,200
7	35	121,860
8	33	9,918,000
9	32	652,860**
10	30	770,940**

* Gross area stress: Net area stress = 1.2 gross area stress
** Failed at the clamp

TABLE 24 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 650°F/100 hr/25 ksi
Test Temp: 650°F

Test 29 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	75	4,[illegible]20
2	70	8,820
3	65	8,820
4	60	12,240
5	55	106,200
6	50	47,700
7	47	727,560
8	47	1,285,740
9	45	315,000
10	40	3,264,840
11	35	7,140,600

Test 30 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	50	5,580
2	47	9,360
3	45	13,140
4	43	14,220
5	40	25,380
6	38	32,040
7	37	437,760
8	35	431,280
9	30	2,318,940
10	25	8,000,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 25 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 650°F/1,000 hr/25 ksi
Test Temp: Room

Test 31 Stress Ratio = 0.1			Test 32 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	85	8,640	1	70	2,880
2	80	10,260	2	65	6,120
3	75	16,020	3	60	15,300
4	72	12,960	4	55	15,480
5	70	10,980	5	52	12,060
6	68	9,720	6	50	27,540
7	66	17,820	7	48	17,640
8	65	18,900	8	46	43,920
9	64	25,200	9	45	332,820
10	62.5	2,374,000	10	44	37,980
11	62	46,980	11	41	2,300,000**
12	60	7,036,200	12	40	8,300,000**
13	58	2,125,800			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 26 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 650°F/1,000 hr/25 ksi
Test Temp: 400°F

Test 33 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	5,760
2	75	8,460
3	70	13,320
4	65	13,500
5	60	48,420
6	55	332,640
7	50	770,580
8	47	2,219,400
9	45	1,814,400
10	40	3,202,200
11	38	10,000,000**

Test 34 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	60	5,760
2	55	12,600
3	50	39,420
4	45	34,560
5	40	57,060
6	38	65,340
7	38	60,840
8	36	1,324,980
9	35	2,295,000**
10	35	7,500,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 27 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 650°F/1,000 hr/25 ksi
Test Temp: 650°F

Test 35 Stress Ratio = 0.1			Test 36 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	75	5,220	1	50	7,200
2	70	5,580	2	46	8,280
3	65	10,620	3	44	13,680
4	60	9,900	4	42	16,920
5	55	15,300	5	40	23,580
6	52	1,092,060	6	39	37,440
7	48	1,306,980	7	38	70,380
8	46	856,800	8	37	894,960
9	44	1,467,000	9	36	950,760**
10	40	7,500,000***	10	34	9,000,000***

* Gross area stress: Net area stress = 1.2 gross area stress
** Failed at the clamp
*** No failure

TABLE 28 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 650°F/5,000 hr/25 ksi
Test Temp: Room

Test 37 Stress Ratio = 0.1			Test 38 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	5,760	1	65	7,020
2	75	8,280	2	60	9,180
3	70	12,420	3	55	11,340
4	65	15,660	4	53	15,480
5	60	49,140	5	50	23,400
6	55	82,980	6	45	78,120
7	50	220,140	7	40	585,900**
8	45	492,840**	8	39	505,080**
9	43	67,788	9	38	446,940**
10	40	10,150,000	10	30	10,000,000***

* Gross area stress: Net area stress = 1.2 gross area stress
** Failed at the clamp
*** No failure

TABLE 29 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 650°F/5,000 hr/25 ksi
Test Temp: 400°F

Test 39, Stress Ratio = 0.1			Test 40, Stress Ratio = -0.5		
Specimen Number	**f_{max} (ksi)***	**Applied Cycles**	**Specimen Number**	**f_{max} (ksi)***	**Applied Cycles**
1	70	7,380	1	60	5,040
2	65	11,880	2	58	7,020
3	60	16,560	3	55	14,220
4	55	22,860	4	52	12,060
5	52	52,740	5	50	15,300
6	51	56,340	6	45	18,540
7	50	900,000	7	42	37,620
8	45	2,133,540	8	40	41,940
9	40	4,176,000	9	38	70,560
10	36	4,039,200	10	35	7,500,000**
11	33	7,500,000**			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 30 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Center-Notched
Soak: 650°F/5,000 hr/25 ksi
Test Temp: 650°F

Test 41 Stress Ratio = 0.1			Test 42 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	65	8,280	1	55	3,600
2	60	9,720	2	50	8,640
3	55	16,200	3	48	5,220
4	50	48,420	4	45	9,720
5	50	34,920	5	42	21,420
6	47	988,920	6	40	31,140
7	45	1,259,460	7	37	118,260
8	45	540,000	8	35	63,720
9	40	2,644,560	9	33	73,620
10	35	7,500,000**	10	30	11,100,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 31 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: None
Test Temp: Room

Test 53 Stress Ratio = 0.1			Test 54 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	8,600	1	140	2,880
2	140	16,600	2	125	3,960
3	130	50,900	3	110	21,100
4	120	61,700	4	100	37,300
5	110	93,600	5	90	90,900
6	105	41,400	6	85	119,900
7	102	84,780	7	82	151,200
8	100	3,260,500	8	80	73,400
9	98	1,219,700	9	80	1,144,100
10	95	5,635,800	10	80	90,360
11	92	330,300	11	78	100,260
12	90	10,000,000*	12	76	139,500
			13	75	172,800
			14	74	6,000,000*
			15	72	10,000,000*

* No failure

TABLE 32 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: None
Test Temp: 400°F

Test 55 Stress Ratio = 0.1			Test 56 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	6,660	1	100	7,200
2	125	12,240	2	100	4,870
3	120	17,640	3	95	19,440
4	115	21,780	4	90	23,940
5	110	32,940	5	85	11,160
6	105	30,420	6	80	13,320
7	102	85,860	7	75	44,820
8	100	523,620	8	70	102,780
9	98	2,068,740	9	65	218,520
10	96	96,840	10	62	11,500,000*
11	92	350,820			
12	90	203,040			
13	88	1,769,400			
14	84	7,653,600			

* No failure

TABLE 33 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: None
Test Temp: 650°F

Test 57, Stress Ratio = 0.1			Test 58, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	1,620	1	90	7,020
2	110	10,260	2	85	14,400
3	100	3,240	3	80	21,240
4	100	2,050,200	4	75	46,440
5	97.5	2,880,000	5	72.5	57,240
6	97.5	11,000,000	6	70	118,260
7	95	21,780	7	67.5	58,500
8	95	2,680,000	8	65	100,440
9	92.5	3,260,000**	9	62.5	336,420
10	90	550,813	10	60	5,251,500
11	87.5	7,434,000	11	58	7,000,000*
12	85	7,670,000*			

* No failure
** Failed at the thermocouple attachment

TABLE 34 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 400°F/100 hr/25 ksi
Test Temp: Room

Test 59 Stress Ratio = 0.1			Test 60 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	10,060	1	140	1,800
2	140	20,520	2	125	7,560
3	130	35,640	3	117	11,160
4	120	40,140	4	110	21,600
5	115	94,300	5	100	25,920
6	110	60,120	6	90	54,360
7	105	273,420	7	85	59,040
8	102.5	306,400	8	80	127,080
9	100	897,300	9	75	242,640
10	95	1,332,000	10	74	2,156,400
11	90	4,272,480	11	70	556,400
12	88	10,000,000*	12	69	165,600
			13	67.5	6,204,400**

* No failure
** Failed at the clamp

TABLE 35 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 400°F/100 hr/25 ksi
Test Temp: 400°F

Test 61, Stress Ratio = 0.1			Test 62, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	4,500	1	120	3,960
2	130	13,860	2	110	6,300
3	120	21,600	3	100	6,840
4	110	42,300	4	90	23,220
5	100	186,120	5	80	53,640
6	95	131,040*	6	75	87,660
7	90	207,360*	7	70	176,760
8	92	154,800	8	65	89,640
9	85	146,340	9	60	372,240
10	80	168,300	10	55	994,500**
11	75	7,500,000***	11	50	310,320*
			12	50	12,200,000***

* Failed at the clamp
** Failed at the thermocouple attachment
*** No failure

TABLE 36 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 400°F/100 hr/25 ksi
Test Temp: 650°F

Test 63 Stress Ratio = 0.1			Test 64 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	125	1,980	1	90	6,300
2	120	15,480	2	85	10,980
3	115	11,700	3	80	15,480
4	110	25,380	4	77	44,280
5	105	24,480	5	75	34,920
6	100	24,120	6	73	46,260
7	97	2,545,200	7	70	1,861,200**
8	95	2,814,840	8	68	125,820**
9	90	2,307,600	9	65	117,900**
10	86	7,500,000*	10	63	131,760
			11	60	703,440
			12	55	622,260
			13	50	277,020**
			14	45	7,500,000*

* No failure
** Failed at the clamp

TABLE 37 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 400°F/1,000 hr/25 ksi
Test Temp: Room

Test 65 Stress Ratio = 0.1			Test 66 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	4,860	1	130	14,220
2	140	34,920	2	120	15,660
3	130	40,140	3	110	27,720
4	120	51,660	4	100	33,120
5	115	112,680	5	90	52,560
6	110	29,520	6	85	71,280
7	110	330,480	7	80	207,900
8	105	434,340	8	75	450,000**
9	100	1,120,900	9	70	170,820
10	95	799,560	10	65	272,700
11	90	3,483,400	11	60	10,500,000*
12	87.5	4,372,256	12	55	2,337,500
13	82.5	10,000,000*	13	52.5	6,365,000*
			14	50	14,709,000*

* No failure
** Failed at the clamp

TABLE 38 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 400°F/1,000 hr/25 ksi
Test Temp: 400°F

Test 67 Stress Ratio = 0.1			Test 68 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	3,960	1	120	4,680
2	120	11,880	2	110	1,980
3	110	23,760	3	100	10,440
4	100	65,520	4	90	45,360
5	90	161,640	5	80	55,080
6	86	137,340	6	75	72,540
7	85	268,740	7	70	147,060
8	80	128,700	8	65	82,800
9	75	349,560	9	63	90,000
10	70	8,000,000***	10	60	4,572,180
			11	55	207,900*
			12	54	179,460
			13	50	1,399,140**
			14	46	8,000,000***

* Failed at the clamp
** Failed at the thermocouple attachment
*** No failure

TABLE 39 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 400°/1,000 hr/25 ksi
Test Temp: 650°F

Test 69 Stress Ratio = 0.1			Test 70 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	105	12,420	1	90	2,340
2	103	25,920	2	87	2,520
3	100	26,100	3	85	6,840
4	95	30,420	4	83	11,880
5	93	25,200	5	80	25,380
6	92	3,071,700	6	78	37,620
7	90	34,200	7	75	3,699,000
8	90	84,420	8	70	37,080
9	88	2,000,000*	9	68	70,380
10	85	8,000,000*	10	65	8,500,000*

* No failure

TABLE 40 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 400°F/5,000 hr/25 ksi
Test Temp: Room

Test 71 Stress Ratio = 0.1			Test 72 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	145	13,860	1	130	10,260
2	140	11,340	2	120	11,160
3	130	19,800	3	110	19,080
4	120	29,340	4	100	25,560
5	115	75,780	5	90	41,760
6	110	657,180	6	80	63,720
7	100	124,920	7	75	57,780
8	95	3,823,800	8	70	137,700
9	90	106,020	9	65	3,706,200
10	85	10,151,820	10	60	10,300,000*

* No failure

TABLE 41 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 400°F/5,000 hr/25 ksi
Test Temp: 400°F

Test 73 Stress Ratio = 0.1			Test 74 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	125	7,200	1	105	7,020
2	120	11,340	2	100	8,640
3	115	26,100	3	95	19,440
4	110	27,720	4	90	17,100
5	105	35,640	5	85	37,080
6	100	20,520	6	80	56,520
7	98	45,900	7	75	56,520
8	95	383,760	8	70	51,300
9	90	95,220	9	65	156,960
10	85	79,020*	10	60	67,140
11	80	330,480	11	55	8,000,000**
12	70	971,280*			
13	65	8,500,000**			

* Failed at the thermocouple attachment
** No failure

TABLE 42 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 400°F/5,000 hr/25 ksi
Test Temp: 650°F

Test 75 Stress Ratio = 0.1			Test 76 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	13,140	1	90	3,060
2	115	17,640	2	90	4,140
3	115	11,880	3	88	32,940
4	110	10,080	4	85	11,880
5	105	16,740	5	80	12,420
6	100	17,100	6	78	74,880
7	95	33,660	7	75	131,580
8	90	160,740	8	70	67,680
9	85	74,520	9	65	153,720
10	80	9,500,000*	10	60	480,060
			11	55	128,880
			12	50	1,282,320
			13	40	8,000,000*

* No failure

TABLE 43 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 650°F/100 hr/25 ksi
Test Temp: Room

Test 77 Stress Ratio = 0.1			Test 78 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	160	1,800	1	140	1,100
2	150	3,060	2	130	8,460
3	140	11,520	3	120	8,460
4	130	27,000	4	110	18,720
5	120	33,480	5	100	27,000
6	115	125,800	6	90	64,080
7	110	73,080	7	80	90,000
8	107.5	843,840	8	75	337,300
9	105	1,679,900	9	70	400,000
10	100	1,605,600	10	67.5	4,660,200**
11	95	3,227,400	11	65	2,179,800
12	90	8,814,600	12	62.5	10,000,000*

* No failure
** Failed at the clamp

TABLE 44   CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 650°F/100 hr/25 ksi
Test Temp: 400°F

Test 79 Stress Ratio = 0.1			Test 80 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	5,580	1	110	1,620
2	120	11,880	2	105	2,700
3	115	26,820	3	100	7,020
4	110	31,860	4	95	13,140
5	105	111,240	5	90	23,040
6	100	70,380	6	85	33,300
7	95	38,520	7	80	37,260
8	90	82,800	8	70	43,380
9	85	126,360	9	65	84,600
10	80	153,900	10	60	174,780
11	75	141,840	11	55	7,500,000*
12	70	7,500,000*			

* No failure

TABLE 45 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 650°/100 hr/25 ksi
Test Temp: 650°F

Test 81 Stress Ratio = 0.1			Test 82 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	115	13,500	1	100	1,260
2	110	21,420	2	90	7,020
3	105	23,400	3	85	84,600
4	100	20,160	4	80	21,420
5	95	181,080**	5	75	37,080
6	90	27,900	6	72	134,100
7	90	6,501,600	7	70	93,060
8	88	7,500,000*	8	65	85,680***
9	85	2,810,880***	9	64	191,700**
10	80	1,315,980***	10	60	91,800
			11	55	108,900
			12	50	752,220**
			13	45	9,000,000*

* No failure
** Failed at the clamp
*** Failed at the thermocouple attachment

TABLE 46 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 650°F/1,000 hr/25 ksi
Test Temp: Room

Test 83 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	6,300
2	140	10,980
3	130	23,040
4	120	47,880
5	117	105,840
6	116	58,700
7	115	232,920
8	112	42,480
9	112	42,300
10	110	459,540
11	110	1,500,000**
12	108	3,526,200
13	105	10,000,000*

Test 84 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	7,200
2	120	9,540
3	110	16,200
4	100	21,240
5	95	61,920
6	90	65,520
7	85	50,220
8	80	59,580
9	80	94,860
10	78	94,140
11	77	10,000,000*
12	76	60,300
13	75	685,800
14	74	66,780

* No failure
** Failed at the clamp

TABLE 47 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 650°F/1,000 hr/25 ksi
Test Temp: 400°F

Test 85 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	1,620
2	120	9,900
3	115	19,080
4	110	16,740
5	105	39,780
6	100	42,480
7	97	79,740
8	95	1,101,960
9	90	2,122,200
10	85	212,400**
11	85	8,000,000*

Test 86 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	100	6,300
2	95	12,980
3	90	15,840
4	85	24,480
5	80	58,680
6	75	65,700
7	70	90,540
8	65	109,800
9	60	157,680
10	55	397,620
11	50	423,900
12	45	8,800,000*

* No failure
** Failed at the thermocouple attachment

TABLE 48 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 650°F/1,000 hr/25 ksi
Test Temp: 650°F

Test 87 Stress Ratio = 0.1			Test 88 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	900	1	90	4,320
2	120	4,680	2	80	17,280
3	115	3,240	3	75	29,700
4	115	7,200	4	72	74,880
5	110	14,400	5	68	113,580
6	105	21,240	6	65	834,480**
7	100	31,500	7	63	145,440**
8	98	2,188,800	8	60	124,020
9	96	31,860	9	58	156,240
10	94	21,420	10	54	840,960
11	92	22,800	11	52	70,920
12	90	9,781,000	12	48	10,000,000*
13	88	49,680			
14	85	10,000,000*			

* No failure
** Failed at the clamp

TABLE 49 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 650°F/5,000 hr/25 ksi
Test Temp: Room

Test 89 Stress Ratio = 0.1			Test 90 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	5,580	1	95	18,180
2	145	13,680	2	90	12,600*
3	140	19,260	3	85	8,460*
4	135	16,560	4	82	90,000
5	130	32,220	5	80	193,500
6	125	72,000	6	78	113,760
7	120	25,020	7	75	45,540
8	118	62,640	8	70	2,708,280
9	115	10,000,000**	9	65	114,120
10	110	8,186,400	10	65	495,540*
			11	60	137,160
			12	55	10,000,000**

* Failed at the clamp
** No failure

TABLE 50 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 650°F/5,000 hr/25 ksi
Test Temp: 400°F

Test 91 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	125	8,820
2	120	11,700
3	115	28,260
4	110	53,820
5	105	37,800
6	100	24,660
7	98	1,425,780*
8	95	540,180
9	90	606,240
10	85	281,160
11	80	84,060
12	75	7,500,000**

Test 92 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	100	5,580
2	95	7,560
3	90	7,740
4	85	11,880
5	80	3,780
6	75	20,160
7	70	159,480
8	65	157,860
9	60	320,040
10	55	308,700
11	50	2,038,860
12	45	777,060
13	40	8,000,000**

* Failed at the clamp
** No failure

TABLE 51 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Unnotched
Soak: 650°F/5,000 hr/25 ksi
Test Temp: 650°F

Test 93 Stress Ratio = 0.1			Test 94 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	6,300	1	100	2,160
2	125	6,300	2	95	8,460
3	120	14,400	3	90	11,340
4	115	11,160	4	85	28,440
5	110	43,560	5	80	33,120
6	105	22,680	6	75	49,860
7	100	157,320	7	70	95,940
8	98	69,660**	8	65	143,460*
9	95	6,580,000	9	60	347,400
10	90	8,000,000***	10	55	11,500,000***

* Failed at the clamp
** Failed at the thermocouple attachment
*** No failure

TABLE 52 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: None
Test Temp: Room

Test 99 Stress Ratio = 0.1			Test 100 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	8,640	1	120	5,400
2	130	11,500	2	110	8,100
3	120	11,340	3	100	10,440
4	110	22,680	4	90	25,560
5	100	25,020	5	80	21,060
6	90	21,600	6	75	27,900
7	80	54,540	7	70	30,240
8	75	4,548,600	8	65	75,200
9	70	68,580	9	60	56,700
10	67.5	5,000,000*	10	60	89,640
11	65	10,000,000*	11	55	9,346,700*
12	60	225,720	12	50	10,000,000*

* No failure

TABLE 53 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: None
Test Temp: 400°F

Test 101 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	7,020
2	115	12,060
3	110	17,820
4	105	12,060
5	100	17,460
6	95	35,100
7	90	15,300
8	85	165,240
9	80	246,650
10	75	55,980
11	73	8,500,000*

Test 102 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	100	1,620
2	90	11,520
3	80	18,180
4	70	20,700
5	65	57,780
6	60	40,140
7	58	66,060
8	55	298,800
9	50	413,460
10	45	7,600,000*

* No failure

TABLE 54 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: None
Test Temp: 650°F

Test 103 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	110	7,200
2	105	16,740
3	100	13,140
4	95	23,220
5	90	188,100
6	85	1,513,800
7	85	31,860
8	82.5	3,656,700
9	80	161,640
10	80	228,420
11	77.5	44,870
12	75	1,722,600
13	70	10,000,000*

Test 104 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	100	2,880
2	90	3,600
3	85	15,660
4	80	27,000
5	75	10,800
6	70	6,660
7	70	18,720
8	65	26,280
9	60	35,820
10	55	142,380
11	52.5	24,300
12	50	10,000,000*

* No failure

TABLE 55 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 400°F/100 hr/25 ksi
Test Temp: Room

Test 105, Stress Ratio = 0.1			Test 106, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	8,640	1	120	6,660
2	120	8,100	2	110	7,200
3	110	13,700	3	100	18,720
4	100	47,300	4	90	9,000
5	95	66,600	5	80	20,340
6	90	279,400	6	70	42,480
7	90	38,160	7	65	47,340
8	85	44,280	8	60	216,900
9	80	133,200	9	57.5	241,200
10	75	254,700	10	55	3,954,600
11	70	744,840	11	52.5	179,280
12	67.5	13,900,000*	12	50	339,500
			13	45	12,000,000*

* No failure

TABLE 56 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion Welded & Planished
Soak: 400°F/100 hr/25 ksi
Test Temp: 400°F

Test 107 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	7,020
2	120	14,760
3	110	11,880
4	100	34,740
5	90	25,920
6	80	238,140
7	75	54,000
8	70	48,780
9	65	43,560
10	60	8,700,000*

Test 108 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	100	4,500
2	95	5,040
3	90	19,998
4	80	18,900
5	70	13,140
6	65	45,540
7	60	125,280
8	55	187,380
9	50	44,460
10	50	335,700
11	45	10,000,000*

* No failure

TABLE 57 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 400°F/100 hr/25 ksi
Test Temp: 650°F

Test 109 Stress Ratio = 0.1			Test 110 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	115	5,940	1	90	4,860
2	110	15,120	2	85	10,800
3	105	14,400	3	80	22,860
4	100	25,560	4	75	21,420
5	95	9,540	5	70	28,620
6	90	10,800	6	65	1,432,440
7	85	241,560	7	60	126,000
8	80	43,380	8	55	46,260
9	75	144,180**	9	50	5,513,400
10	70	3,787,200	10	45	118,260
11	65	5,716,800	11	40	11,500,000*
12	60	3,067,200			
13	56	7,500,000*			

* No failure
** Failed at the clamp

TABLE 58 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 400°F/1,000 hr/25 ksi
Test Temp: Room

Test 111 Stress Ratio = 0.1			Test 112 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	5,220	1	110	1,440
2	140	13,320	2	103	14,220
3	130	14,040	3	100	4,500
4	120	18,000	4	95	25,020
5	110	30,060	5	90	17,460
6	100	18,720	6	80	28,440
7	95	24,300	7	75	35,820
8	90	36,180	8	70	38,520
9	85	68,220	9	65	124,020
10	80	7,570,000	10	60	57,060
11	75	97,020	11	58	10,780,000
12	75	4,500,000*	12	50	3,500,000*

* No failure

TABLE 59 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 400°F/1,000 hr/25 ksi
Test Temp: 400°F

Test 113 Stress Ratio = 0.1			Test 114 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	6,480	1	100	7,200
2	120	13,500	2	95	6,600
3	110	19,260	3	90	14,040
4	105	6,840	4	85	12,600
5	100	40,140	5	80	21,060
6	95	46,440	6	75	21,960
7	90	15,660	7	70	41,760
8	85	163,260	8	65	66,060
9	80	5,079,600	9	60	71,640
10	70	5,646,600	10	57	107,820
			11	55	49,140
			12	50	7,500,000*

* No failure

TABLE 60 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 400°F/1,000 hr/25 ksi
Test Temp: 650°F

Test 115 Stress Ratio = 0.1			Test 116 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	10,080	1	85	6,840
2	115	16,020	2	80	11,700
3	110	8,460	3	75	3,600
4	105	10,980	4	70	44,640
5	100	15,480	5	65	21,240
6	95	14,580	6	60	119,160
7	90	21,600	7	55	325,440
8	85	1,135,080*	8	53	116,100
9	80	26,460	9	50	50,580
10	75	37,800	10	45	406,440
11	70	7,500,000*	11	40	7,500,000*

* No failure

TABLE 61   CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 400°F/5,000 hr/25 ksi
Test Temp: Room

Test 117 Stress Ratio = 0.1			Test 118 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	9,180	1	120	7,560
2	120	19,260	2	110	11,340
3	110	18,360	3	100	12,780
4	105	40,320	4	95	9,360
5	100	35,280	5	90	12,600
6	95	136,080	6	85	30,060
7	90	24,480	7	80	19,800
8	88	3,606,300	8	75	71,100
9	85	1,423,440	9	70	2,855,160
10	80	79,920	10	65	89,280
11	75	9,063,000	11	60	102,960
			12	55	402,120
			13	50	237,960
			14	45	8,000,000*

* No failure

TABLE 62   CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 400°F/5,000 hr/25 ksi
Test Temp: 400°F

Test 119 Stress Ratio = 0.1			Test 120 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	110	4,680	1	90	7,740
2	105	15,840	2	85	18,900
3	100	13,140	3	80	19,800
4	95	29,520	4	75	16,380
5	90	60,840	5	70	19,980
6	88	14,760	6	65	21,420
7	85	23,940	7	60	11,340
8	80	19,980	8	55	121,140
9	78	17,640	9	50	41,760
10	75	10,000,000*	10	45	1,388,160
			11	40	1,220,400
			12	38	11,200,000*

* No failure

TABLE 63 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 400°F/5,000 hr/25 ksi
Test Temp: 650°F

Test 121 Stress Ratio = 0.1			Test 122 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	110	6,660	1	80	5,220
2	105	21,960	2	75	11,700
3	100	14,400	3	70	21,420
4	95	21,960	4	65	117,360
5	90	34,920	5	60	14,220
6	85	97,020	6	55	27,540
7	80	165,240	7	58	129,900
8	75	106,560	8	50	264,780
9	70	61,740	9	45	440,280
10	65	7,500,000*	10	40	8,000,000*

* No failure

TABLE 64 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 650°F/100 hr/25 ksi
Test Temp: Room

Test 123, Stress Ratio = 0.1			Test 124, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	3,060	1	120	6,840
2	140	13,680	2	110	10,260
3	130	10,080	3	100	15,120
4	120	9,720	4	90	27,540
5	115	15,840	5	85	14,760
6	110	31,320	6	80	48,060
7	105	69,840	7	75	50,400
8	100	35,460	8	70	57,600
9	97.5	47,520	9	67.5	84,960
10	95	8,500,000*	10	65	128,200
11	90	1,911,650	11	62.5	77,940
12	90	88,200	12	60	10,000,000*
13	85	35,100	13	57.5	63,900
14	80	10,000,000*	14	52.5	2,251,800**

* No failure
** Failed at the clamp

TABLE 65 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 650°F/100 hr/25 ksi
Test Temp: 400°F

Test 125 Stress Ratio = 0.1			Test 126 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	5,940	1	110	3,780
2	120	15,480	2	105	4,140
3	110	23,040	3	100	10,440
4	100	47,700	4	95	14,760
5	90	42,660	5	90	18,540
6	85	38,700	6	85	10,620
7	82	49,320	7	80	26,280
8	80	5,203,800	8	70	37,440
9	75	40,860	9	65	63,180
10	70	75,420	10	60	157,140**
11	65	9,000,000*	11	55	145,620
			12	50	1,422,360
			13	45	1,407,780***
			14	45	875,880***
			15	40	7,500,000 *

* No failure
** Failed at the clamp
*** Failed at the thermocouple attachment

TABLE 66 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 650°F/100 hr/25 ksi
Test Temp: 650°F

Test 127 Stress Ratio = 0.1			Test 128 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	5,220	1	90	3,060
2	115	8,100	2	85	3,780
3	110	8,280	3	82	5,400
4	105	9,900	4	80	24,300
5	100	34,200	5	75	36,180
6	95	19,440	6	70	33,840
7	90	26,100	7	65	113,580
8	85	2,293,200	8	60	110,340
9	80	1,095,480**	9	55	254,880
10	80	3,376,260	10	52	2,844,000
11	78	28,620	11	48	175,320
12	75	1,960,200	12	45	4,516,000
13	70	10,500,000*			

* No failure
** Failed at the thermocouple attachment

TABLE 67 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 650°F/1,000 hr/25 ksi
Test Temp: Room

Test 129, Stress Ratio = 0.1			Test 130, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	8,460	1	100	8,100
2	130	10,800	2	95	10,440
3	130	16,200	3	93	30,240
4	120	28,440	4	90	21,240
5	120	16,740	5	85	24,840
6	115	17,820	6	80	46,800
7	110	27,360	7	78	482,220
8	105	79,020	8	75	28,800
9	100	32,040	9	75	111,600
10	100	47,880	10	73	52,380
11	95	35,100	11	70	10,000,000*
12	90	35,640	12	70	4,500,000*
13	90	11,840,000			
14	90	7,000,000*			
15	85	5,000,000*			
16	80	83,083			

* No failure

TABLE 68 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 650°F/1,000 hr/25 ksi
Test Temp: 400°F

Test 131 Stress Ratio = 0.1			Test 132 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	6,120	1	110	1,980
2	120	11,160	2	100	13,140
3	115	11,160	3	90	23,580
4	110	19,260	4	85	41,760
5	105	28,980	5	80	43,020
6	100	13,500	6	75	48,780
7	100	33,480	7	70	75,600
8	95	2,731,500	8	65	96,300
9	90	2,862,900	9	60	86,760
10	85	5,729,400**	10	55	1,058,220**
			11	50	698,580
			12	45	451,260**
			13	40	8,000,000*

* No failure
** Failed at the thermocouple attachment

TABLE 69 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 650°F/1,000 hr/25 ksi
Test Temp: 650°F

Test 133 Stress Ratio = 0.1			Test 134 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	1,620	1	90	4,500
2	115	8,460	2	85	18,540
3	110	15,300	3	80	12,960
4	105	17,460	4	75	116,280
5	100	21,240	5	70	73,440
6	98	21,060	6	67	188,460
7	97	24,480	7	65	34,200
8	96	556,200	8	63	5,792,000
9	95	921,600	9	62	43,380
10	92	755,000**	10	60	9,000,000*
11	88	126,900			
12	86	19,980			
13	82	29,520			
14	80	10,000,000*			

* No failure
** Failed at the thermocouple attachment

TABLE 70 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 650°F/5,000 hr/25 ksi
Test Temp: Room

Test 135, Stress Ratio = 0.1			Test 136, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	18,180	1	110	5,220
2	125	10,440	2	100	32,040
3	120	20,520	3	90	18,800
4	115	6,660	4	85	14,220
5	110	36,540	5	80	15,840
6	105	56,340	6	75	26,640
7	100	1,121,760	7	70	55,980
8	95	24,300	8	65	91,800
9	90	2,018,520*	9	60	76,320
10	88	1,042,920*	10	55	39,600
11	85	314,280	11	55	919,080
12	80	86,400	12	50	7,383,600
13	80	21,780			
14	75	34,560			
15	70	10,000,000**			

* Failed at the clamp
** No failure

TABLE 71 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 650°F/5,000 hr/25 ksi
Test Temp: 400°F

Test 137 Stress Ratio = 0.1			Test 138 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	108	12,240	1	100	2,530
2	105	6,480	2	95	6,120
3	104	14,220	3	90	19,440
4	100	17,100	4	80	20,700
5	98	14,400	5	75	15,300
6	95	146,520*	6	70	133,920
7	92	56,520	7	65	36,720
8	88	28,800	8	60	54,900
9	85	30,960	9	55	101,160
10	80	46,260	10	50	1,461,960
11	75	7,500,000**	11	45	7,500,000**

* Failed at the thermocouple attachment
** No failure

TABLE 72 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: 8-1-1 Titanium Duplex-Annealed
Geometry: Fusion-Welded & Planished
Soak: 650°F/5,000 hr/25 ksi
Test Temp: 650°F

Test 139 Stress Ratio = 0.1			Test 140 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	110	6,660	1	95	1,620
2	108	7,020	2	90	9,180
3	105	10,440	3	85	2,700
4	102	16,380	4	80	12,060
5	100	20,340	5	76	8,820
6	95	36,540	6	73	25,380
7	90	54,000	7	70	37,800
8	87	46,980*	8	67	61,920
9	85	26,100	9	62	13,500
10	80	7,500,000**	10	60	7,500,000**

* Failed at the thermocouple attachment
** No failure

TABLE 73 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: None
Test Temp: Room

Test 145 Stress Ratio = 0.1			Test 146 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	100	6,660	1	100	1,620
2	90	11,880	2	90	1,980
3	80	16,740	3	80	5,040
4	75	13,320	4	70	10,080
5	70	38,520	5	60	20,160
6	65	43,920	6	55	26,820
7	60	66,600	7	50	46,260
8	55	79,200	8	47.5	74,700
9	54	69,480	9	45	239,760
10	50	9,750,600**	10	42.5	79,920
11	50	106,200	11	41	272,700
12	45	10,000,000**	12	40	10,000,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 74 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: None
Test Temp: 400°F

Test 147 Stress Ratio = 0.1			Test 148 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	7,740	1	70	3,060
2	75	9,540	2	65	5,760
3	70	14,400	3	60	9,720
4	65	16,020	4	55	15,120
5	63	15,480	5	50	23,400
6	62	23,400	6	48	31,680
7	60	40,320	7	46	30,960
8	58	33,480	8	44	113,040
9	56	45,180	9	40	120,780
10	55	6,996,600	10	38	8,750,000**
			11	35	4,900,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 75 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: None
Test Temp: 650°F

Test 149 Stress Ratio = 0.1			Test 150 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	100	2,340	1	70	1,440
2	90	2,700	2	60	2,520
3	80	5,580	3	55	4,680
4	70	7,920	4	50	5,940
5	65	16,560	5	45	14,400
6	60	27,540	6	40	19,260
7	55	7,360,200	7	38	51,300
8	53	144,000	8	36	29,520
9	50	370,800	9	34	4,700,000**
10	48	9,000,000**	10	30	9,200,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 76 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 400°F/100 hr/40 ksi
Test Temp: Room

Test 151, Stress Ratio = 0.1			Test 152, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	100	7,020	1	70	8,100
2	90	13,860	2	65	23,220
3	80	16,380	3	60	15,660
4	70	19,620	4	55	23,040
5	65	30,060	5	50	30,420
6	60	47,340	6	47.5	57,060
7	55	73,440**	7	45	124,200
8	52.5	45,720	8	42.5	70,740
9	52.5	59,760	9	40	113,760
10	50	112,860	10	37.5	177,480
11	50	196,200	11	35	168,660
12	50	10,000,000***	12	32.5	9,346,000***
13	47.5	166,000	13	30	14,000,000***
14	45	3,418,200			
15	42.5	10,000,000***			

* Gross area stress: Net area stress = 1.2 gross area stress
** Failed at the clamp
*** No failure

TABLE 77 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 400°F/100 hr./40 ksi
Test Temp: 400°F

Test 153 Stress Ratio = 0.1			Test 154 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	4,860	1	65	3,780
2	78	7,380	2	60	7,740
3	75	10,440	3	55	13,140
4	70	13,320	4	50	13,500
5	65	16,200	5	48	19,980
6	60	20,340	6	47	18,360
7	55	29,160	7	46	34,560
8	50	37,440	8	45	42,660
9	48	3,500,000**	9	43	51,300
10	45	7,500,000**	10	40	7,500,000**

* Gross area stress : Net area stress = 1.2 gross area stress
** No failure

TABLE 78 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 400°F/100 hr/40 ksi
Test Temp: 650°F

Test 155 Stress Ratio = 0.1			Test 156 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	70	7,380	1	65	3,780
2	66	9,360	2	60	5,400
3	63	9,720	3	55	9,180
4	60	14,580	4	50	6,480
5	57	57,600	5	47	12,410
6	55	40,860	6	45	22,860
7	52	2,200,000**	7	43	9,360
8	50	69,840	8	40	29,520
9	48	2,300,000**	9	38	30,960
10	45	7,500,000**	10	35	11,500,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 79 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 400°F/1,000 hr/40 ksi
Test Temp: Room

Test 157 Stress Ratio = 0.1			Test 158 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	85	6,840	1	70	11,880
2	80	13,500	2	65	12,060
3	75	8,640	3	60	22,320
4	70	21,420	4	55	34,920
5	65	23,400	5	52	41,940
6	60	45,720	6	50	106,740
7	55	58,860	7	48	54,540
8	52	94,140	8	45	85,500
9	50	10,000,000**	9	42	93,960
10	48	6,500,000**	10	40	17,000,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 80 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 400°F/1,000 hr/40 ksi
Test Temp: 400°F

Test 159 Stress Ratio = 0.1			Test 160 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	7,740	1	70	5,220
2	75	8,280	2	66	5,220
3	73	10,800	3	64	7,380
4	70	16,380	4	60	10,260
5	65	19,620	5	56	10,440
6	60	33,300	6	54	13,500
7	55	33,480	7	50	22,860
8	53	554,400**	8	46	23,220
9	50	65,160	9	44	36,540
10	48	7,500,000**	10	40	10,000,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 81 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 400°F/1,000 hr/40 ksi
Test Temp: 650°F

Test 161 Stress Ratio = 0.1			Test 162 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	70	6,840	1	60	7,020
2	68	9,180	2	55	6,840
3	66	5,940**	3	54	11,700
4	65	33,660	4	52	13,140
5	64	14,040	5	50	11,880
6	62	13,500	6	48	20,160
7	60	26,640	7	45	24,300
8	60	11,520	8	44	250,000***
9	58	5,100,000***	9	43	79,560
10	55	7,500,000***	10	40	12,100,000***

* Gross area stress: Net area stress = 1.2 gross area stress
** Failed at the clamp
*** No failure

TABLE 82 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 400°F/5000 hr/40 ksi
Test Temp: Room

Test 163 Stress Ratio = 0.1			Test 164 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	85	10,620	1	80	3,780
2	80	13,500	2	75	4,500
3	75	18,360	3	70	12,240
4	70	24,660	4	65	12,960
5	65	30,240	5	60	16,560
6	60	58,140	6	55	16,920
7	55	48,420	7	50	36,900
8	50	73,080	8	47	124,200
9	46	129,670	9	45	107,460
10	42	10,000,000**	10	40	9,000,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 83 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 400°F/5,000 hr/40 ksi
Test Temp: 400°F

Test 165 Stress Ratio = 0.1			Test 166 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	5,040	1	60	3,600
2	75	6,840	2	58	4,500
3	70	8,280	3	56	12,240
4	65	7,740	4	55	8,640
5	62	10,080	5	50	9,360
6	60	14,940	6	48	11,520
7	56	23,400	7	46	27,360
8	52	32,580	8	42	42,120
9	50	2,500,000**	9	40	26,820
10	48	7,500,000**	10	37	7,500,000**

* Gross area stress: net area stress = 1.2 gross area stress
** No failure

TABLE 84 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 400°F/5,000 hr/40 ksi
Test Temp: 650°F

Test 167 Stress Ratio = 0.1			Test 168 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	68	7,560	1	55	4,320
2	66	9,720	2	53	3,420
3	65	7,200	3	52	5,940
4	64	9,360	4	50	9,720
5	62	10,800	5	48	8,820
6	60	15,120	6	46	14,220
7	58	10,260	7	45	22,140
8	56	16,920	8	42	24,120
9	54	13,860	9	40	57,420
10	52	7,500,000**	10	38	38,340
11	50	45,720	11	34	18,180
12	46	5,500,000**	12	32	8,500,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 85 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 650°F/100 hr/40 ksi
Test Temp: Room

Test 169, Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	90	9,180
2	80	17,640
3	75	11,160
4	70	42,120
5	65	20,340
6	60	59,220
7	57.5	117,360
8	56	52,380
9	55	10,000,000**
10	54	90,720
11	52	60,840
12	50	5,500,000**

Test 170, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	70	7,200
2	65	18,360
3	60	21,600
4	55	31,140
5	50	37,260
6	47.5	59,280
7	45	79,740
8	43	95,040
9	42	140,400
10	40	812,880
11	38	14,000,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 86 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 650°F/100 hr/40 ksi
Test Temp: 400°F

Test 171 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	82	6,840
2	80	7,740
3	80	9,720
4	75	12,240
5	70	11,340
6	65	11,700
7	60	28,340
8	57	32,220
9	55	4,433,400
10	52	52,740
11	48	7,500,000**

Test 172 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	65	5,220
2	62	7,020
3	60	10,440
4	55	12,960
5	52	12,060
6	50	30,960
7	50	27,360
8	46	35,820
9	44	75,600
10	42	7,500,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 87 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 650°F/100 hr/40 ksi
Test Temp: 650°F

Test 173 Stress Ratio = 0.1			Test 174 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	75	5,580	1	60	5,580
2	70	7,380	2	55	6,840
3	67	11,340	3	53	8,820
4	65	14,580	4	50	15,300
5	62	10,980	5	50	6,600
6	60	11,340	6	47	16,020
7	57	14,040	7	45	17,460
8	55	45,360	8	43	26,460
9	52	35,460	9	42	29,340
10	50	32,760	10	40	7,500,000**
11	48	7,500,000**			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 88 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 650°F/1,000 hr/40 ksi
Test Temp: Room

Test 175 Stress Ratio = 0.1			Test 176 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	85	9,900	1	70	10,620
2	80	11,520	2	65	14,220
3	78	17,640	3	60	23,400
4	75	21,420	4	58	31,860
5	70	30,060	5	55	106,920
6	68	25,380	6	52	33,120
7	65	24,660	7	50	38,700
8	60	82,440	8	48	50,220
9	55	135,720	9	45	99,000
10	50	14,000,000**	10	42	12,411,000

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 89 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 650°F/1,000 hr/40 ksi
Test Temp: 400°F

Test 177 Stress Ratio = 0.1			Test 178 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	90	6,300	1	70	3,780
2	80	10,800	2	65	5,220
3	75	14,040	3	60	10,080
4	70	15,660	4	55	13,680
5	65	18,900	5	50	19,260
6	62	17,460	6	47	23,220
7	60	3,900,600	7	45	45,720
8	56	25,200	8	43	74,160
9	54	1,000,000**	9	40	81,900
10	50	8,000,000**	10	37	8,800,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 90 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 650°F/1,000 hr/40 ksi
Test Temp: 650°F

Test 179 Stress Ratio = 0.1			Test 180 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	4,680	1	60	3,060
2	75	7,560	2	55	4,500
3	70	8,460	3	54	8,640
4	65	7,200	4	52	10,620
5	62	9,720	5	50	13,860
6	60	11,520	6	48	18,180
7	58	2,400,000**	7	46	23,760
8	58	13,140	8	44	26,820
9	55	377,820	9	42	2,000,000**
10	50	4,685,400***	10	40	7,500,000**
11	50	9,100,000**			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure
*** Failed at the clamp

TABLE 91 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 650°F/5,000 hr/40 ksi
Test Temp: Room

Test 181 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	95	7,200
2	90	9,900
3	85	13,840
4	80	12,780
5	70	12,600
6	70	27,000
7	65	45,540
8	60	32,940
9	55	30,600
10	50	160,380
11	49	7,000,000**
12	48	118,080
13	46	10,000,000**

Test 182 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	5,400
2	70	11,160
3	65	13,860
4	60	13,860
5	55	30,780
6	50	41,760
7	45	122,220
8	40	180,000
9	37	389,880
10	34	8,000,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 92 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 650°F/5,000 hr/40 ksi
Test Temp: 400°F

Test 183 Stress Ratio = 0.1			Test 184 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	5,040	1	70	5,040
2	78	11,700	2	68	5,400
3	75	6,120	3	65	10,980
4	72	12,780	4	60	10,980
5	70	10,800	5	58	16,200
6	68	28,260	6	56	21,600
7	65	14,220	7	54	22,680
8	62	38,340	8	50	23,940
9	60	14,220	9	48	7,500,000**
10	58	67,500	10	46	2,080,800
11	55	8,500,000**			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 93 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Center-Notched
Soak: 650°F/5,000 hr/40 ksi
Test Temp: 650°F

Test 185 Stress Ratio = 0.1			Test 186 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	90	5,040	1	58	8,640
2	85	6,120	2	55	5,940
3	80	6,660	3	52	12,780
4	75	6,120	4	50	9,720
5	70	8,460	5	49	24,120
6	65	5,940	6	48	15,840
7	62	2,000,000**	7	47	20,160
8	60	12,060	8	46	42,660
9	58	94,680	9	45	2,200,000**
10	55	8,000,000**	10	44	7,500,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 94 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: None
Test Temp: Room

Test 197 Stress Ratio = 0.1			Test 198 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	180	16,920	1	150	7,680
2	170	11,520	2	140	11,700
3	160	26,460	3	130	13,860
4	150	25,200	4	120	29,880
5	140	26,100	5	110	32,760
6	130	62,100	6	105	50,580
7	125	54,000	7	100	84,780
8	120	43,560	8	95	239,040
9	117.5	131,220	9	90	263,700
10	115	124,200	10	87.5	400,140
11	110	118,800	11	85	122,200
12	105	10,000,000*	12	80	12,500,000*

* No failure

TABLE 95 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: None
Test Temp: 400°F

Test 199 Stress Ratio = 0.1			Test 200 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	160	6,120	1	130	6,300
2	150	9,720	2	125	9,360
3	140	15,840	3	120	11,700
4	130	17,820	4	115	13,680
5	125	42,120	5	110	13,140
6	120	42,840	6	105	18,900
7	115	30,780	7	100	23,940
8	110	31,680	8	95	35,820
9	107	26,280	9	90	35,820
10	105	8,600,000*	10	85	41,220
11	102	7,500,000*	11	83	1,250,000*
			12	80	7,600,000*
			13	75	4,300,000*

* No failure

TABLE 96 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: None
Test Temp: 650°F

Test 201 Stress Ratio = 0.1			Test 202 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	145	10,080	1	120	9,540
2	140	14,580	2	110	12,420
3	135	14,940	3	100	18,000
4	130	29,340	4	95	14,040
5	127	14,760	5	93	15,480
6	125	37,260	6	90	24,660
7	125	7,650,000*	7	88	2,000,000*
8	123	7,185,000	8	88	12,000,000*
9	120	241,200	9	80	8,000,000*
10	115	10,000,000*	10	75	2,000,000*

* No failure

TABLE 97 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 400°F/100 hr/40 ksi
Test Temp: Room

Test 203 Stress Ratio = 0.1			Test 204 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	170	22,100	1	160	6,120
2	150	23,940	2	150	2,700
3	130	48,600	3	140	17,820
4	120	87,480	4	130	19,800
5	115	237,600	5	120	27,900
6	110	2,680,900	6	110	25,200
7	110	337,060	7	100	61,560
8	105	102,720	8	95	53,640
9	105	233,500	9	90	84,240
10	100	240,660	10	87	11,000,000*
11	95	282,200	11	82	10,000,000*
12	90	10,000,000*			

* No failure

TABLE 98 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 400°F/100 hr/40 ksi
Test Temp: 400°F

Test 205 Stress Ratio = 0.1			Test 206 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	9,540	1	115	13,680
2	140	12,780	2	110	14,940
3	130	16,920	3	105	10,800
4	120	23,760	4	100	17,100
5	115	30,420	5	95	31,320
6	113	33,300	6	90	241,020
7	110	53,100	7	88	100,080
8	108	44,460	8	86	56,700
9	106	45,720	9	84	7,000,000*
10	105	10,000,000*	10	80	7,500,000*

* No failure

TABLE 99 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 400°F/100 hr/40 ksi
Test Temp: 650°F

Test 207 Stress Ratio = 0.1			Test 208 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	6,300	1	115	3,960
2	135	10,620	2	110	8,820
3	130	6,480	3	105	10,260
4	128	17,460	4	100	16,920
5	125	13,140	5	96	10,260
6	120	12,240	6	95	14,940
7	115	16,740	7	92	20,340
8	112	2,300,000*	8	90	45,540
9	110	26,280	9	85	41,940
10	105	11,300,000*	10	80	9,000,000*

* No failure

TABLE 100 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 400°F/1,000 hr/40 ksi
Test Temp: Room

Test 209 Stress Ratio = 0.1			Test 210 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	180	13,140	1	140	9,720
2	160	11,340	2	120	18,900
3	150	19,080	3	110	22,140
4	130	42,300	4	100	28,440
5	120	51,800	5	95	139,140
6	115	65,880	6	90	91,260
7	110	142,380	7	85	180,000
8	107	126,000	8	80	86,580
9	104	85,140	9	75	91,080
10	95	238,860	10	70	9,000,000*
11	90	2,085,300**			
12	85	13,000,000*			

* No failure
** Failed at the clamp

TABLE 101 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 400°F/1,000 hr/40 ksi
Test Temp: 400°F

Test 211, Stress Ratio = 0.1			Test 212, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	160	7,200	1	120	5,580
2	150	16,920	2	110	11,160
3	140	17,280	3	105	20,340
4	130	15,480	4	100	21,780
5	125	34,560	5	95	47,520
6	120	27,900	6	90	157,860
7	116	32,040	7	85	52,200
8	115	49,700	8	82	57,960
9	114	24,120	9	78	40,140
10	110	11,300,000*	10	75	15,000,000*
11	110	47,700			
12	105	75,060			
13	100	3,000,000*			

* No failure

TABLE 102 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 400°F/1,000 hr./40 ksi
Test Temp: 650°F

Test 213, Stress Ratio = 0.1			Test 214, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	7,200	1	120	900
2	145	10,080	2	115	3,960
3	140	20,880	3	110	12,600
4	135	10,800	4	105	12,240
5	130	10,080	5	100	16,920
6	128	16,560	6	95	36,180
7	125	14,400	7	90	35,640
8	122	2,000,000*	8	87	33,120
9	120	24,120	9	85	21,780
10	115	7,500,000*	10	80	7,500,000*

* No failure

TABLE 103 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 400°F/5,000 hr/40 ksi
Test Temp: Room

Test 215 Stress Ratio = 0.1			Test 216 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	170	10,440	1	130	10,800
2	165	11,880	2	125	13,680
3	160	12,420	3	120	35,100
4	150	23,940	4	110	48,290
5	140	30,060	5	100	67,680
6	130	46,980	6	95	417,060
7	120	42,120**	7	95	25,200
8	115	81,000	8	90	158,220
9	110	407,160	9	85	271,440
10	105	169,380	10	80	7,500,000*
11	100	10,000,000*			

* No failure
** Failed at the clamp

TABLE 104 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 400°F/5,000 hr/40 ksi
Test Temp: 400°F

Test 217 Stress Ratio = 0.1			Test 218 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	160	6,120	1	135	11,700
2	150	10,440	2	130	8,820
3	140	14,580	3	125	8,280
4	135	32,940	4	120	11,340
5	130	13,680	5	115	14,400
6	125	40,500	6	110	10,980
7	120	20,340	7	105	15,660
8	115	74,160	8	100	15,120
9	110	29,160	9	95	45,000
10	105	8,000,000*	10	90	26,460
			11	85	117,360
			12	80	81,180
			13	75	7,500,000*

* No failure

TABLE 105 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 400°F/5,000 hr/40 ksi
Test Temp: 650°F

Test 219 Stress Ratio = 0.1			Test 220 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	155	5,760	1	120	6,300
2	150	7,920	2	115	4,860
3	145	9,900	3	110	17,460
4	142	10,800	4	105	18,180
5	140	5,760	5	100	19,260
6	138	15,840	6	98	17,820
7	135	13,140	7	96	16,020
8	132	55,800	8	95	1,087,920
9	130	2,000,000*	9	92	13,860
10	125	7,500,000*	10	90	99,360
			11	88	17,460
			12	85	7,500,000*
			13	78	56,000

* No failure

TABLE 106 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 650°F/100 hr/40 ksi
Test Temp: Room

Test 221 Stress Ratio = 0.1			Test 222 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	180	7,200	1	130	15,120
2	180	11,700	2	120	10,440
3	170	14,400	3	115	42,120
4	160	25,020	4	110	54,000
5	150	24,660	5	105	40,320
6	140	35,280	6	100	23,580
7	130	51,300	7	98	43,340
8	120	47,880	8	95	158,760
9	110	50,940	9	90	170,820
10	100	107,640	10	90	115,200
11	97	86,040	11	85	168,120
12	95	79,920	12	83	7,000,000*
13	92	2,000,000*	13	80	11,900,000*
14	90	10,000,000*			

* No failure

TABLE 107 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 650°F/100 hr/40 ksi
Test Temp: 400°F

Test 223 Stress Ratio = 0.1			Test 224 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	160	9,360	1	130	5,940
2	140	13,680	2	120	14,040
3	130	6,840	3	110	20,340
4	120	26,640	4	105	14,580
5	115	47,520	5	100	27,360
6	110	55,260	6	95	28,260
7	105	59,040	7	90	48,780
8	103	40,140	8	85	36,000
9	102	38,340	9	80	42,300
10	101	114,000	10	75	9,000,000*
11	101	3,200,000*			
12	100	12,500,000*			

* No failure

TABLE 108 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 650°F/100 hr/40 ksi
Test Temp: 650°F

Test 225 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	10,980
2	140	17,280
3	130	13,140
4	125	25,380
5	120	14,580
6	115	17,460
7	110	20,160
8	108	12,200,000*
9	106	19,440
10	100	3,000,000*

Test 226 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	110	6,300
2	108	9,000
3	105	9,180
4	100	11,160
5	98	21,420
6	95	13,680
7	92	86,220
8	90	30,780
9	88	50,580
10	86	6,211,800
11	82	7,500,000*

* No failure

TABLE 109 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 650°F/1,000 hr/40 ksi
Test Temp: Room

Test 227 Stress Ratio = 0.1			Test 228 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	180	15,300	1	150	7,740
2	170	14,220	2	140	12,420
3	160	25,740	3	130	30,600
4	150	41,580	4	130	37,800
5	140	37,080	5	120	39,060
6	130	46,980	6	110	57,060
7	120	176,040	7	100	41,400
8	110	147,060	8	95	171,000
9	100	255,060	9	90	415,400
10	95	11,500,000*	10	85	11,500,000*

* No failure

TABLE 110 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 650°F/1,000 hr/40 ksi
Test Temp: 400°F

Test 229 Stress Ratio = 0.1			Test 230 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	170	7,920	1	140	8,100
2	160	8,280	2	130	10,980
3	150	13,860	3	120	15,120
4	140	8,460	4	110	19,620
5	130	27,180	5	105	181,800
6	125	9,300,000*	6	100	15,480
7	120	54,000	7	95	32,940
8	115	51,660	8	90	33,660
9	110	7,600,000*	9	88	137,700
10	105	56,520	10	85	689,400
11	100	88,560	11	83	39,960
12	95	7,142,400*	12	80	12,000,000*

* No failure

TABLE 111 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 650°F/1,000 hr/40 ksi
Test Temp: 650°F

Test 231 Stress Ratio = 0.1			Test 232 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	4,140	1	120	4,320
2	145	9,360	2	118	2,700
3	140	8,100	3	116	3,780
4	140	12,060	4	115	7,380
5	138	11,160	5	112	5,760
6	136	6,840	6	110	9,000
7	134	10,800	7	108	8,100
8	132	12,060	8	105	16,020
9	130	2,001,600	9	102	10,620
10	125	17,820	10	100	6,634,800
11	120	5,286,420	11	95	28,440
12	116	7,500,000*	12	90	2,500,000*
			13	86	37,260
			14	80	7,500,000*

* No failure

TABLE 112 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 650°F/5,000 hr/40 ksi
Test Temp: Room

Test 233 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	180	11,700
2	170	16,200
3	160	12,780
4	150	14,400
5	140	19,620
6	130	62,820
7	120	77,040
8	115	233,820
9	110	407,700
10	106	62,820
11	100	10,000,000*

Test 234 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	10,080
2	140	18,000
3	135	19,620
4	130	18,540
5	120	17,640
6	110	44,100
7	100	93,420
8	90	144,180
9	85	301,500
10	80	8,338,500

* No failure

TABLE 113 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 650°F/5,000 hr/40 ksi
Test Temp: 400°F

Test 235 Stress Ratio = 0.1			Test 236 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	6,840	1	135	5,400
2	145	16,020	2	130	12,060
3	140	10,260	3	125	19,980
4	138	35,460	4	120	26,820
5	135	58,860	5	115	16,740
6	132	35,100	6	110	23,940
7	130	15,480	7	105	31,860
8	128	44,640	8	100	19,080
9	125	2,500,000*	9	95	56,700
10	120	20,520	10	90	5,925,000
11	110	10,000,000*	11	85	7,500,000*
			12	80	92,700

* No failure

TABLE 114 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Unnotched
Soak: 650°F/5,000 hr/40 ksi
Test Temp: 650°F

Test 237 Stress Ratio = 0.1			Test 238 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	155	5,400	1	130	3,600
2	150	9,720	2	120	10,980
3	145	9,000	3	115	8,820
4	140	9,900	4	110	14,040
5	135	9,360	5	108	55,980
6	130	13,680	6	105	28,980
7	128	33,840	7	102	14,220
8	125	19,980	8	100	7,500,000*
9	120	22,068	9	98	17,280
10	115	7,500,000*	10	94	2,500,000*

* No failure

TABLE 115 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: None
Test Temp: Room

Test 243 Stress Ratio = 0.1			Test 244 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	160	12,780	1	130	3,780
2	150	10,800	2	120	18,000
3	140	43,380	3	110	33,840
4	130	51,840	4	100	62,820
5	125	28,080	5	90	77,760
6	122.5	55,620	6	87	6,500,000*
7	120	1,779,660	7	85	47,340
8	117.5	69,300	8	80	66,600
9	115	66,600	9	77.5	167,040
10	112.5	7,700,000*	10	75	10,000,000*
11	110	270,360	11	75	3,100,000*
12	105	10,000,000*	12	70	190,180
			13	60	12,500,000*

* No failure

TABLE 116 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: None
Test Temp: 400°F

Test 245 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	6,660
2	140	15,840
3	140	8,820
4	130	9,000
5	125	9,720
6	122	28,620
7	120	10,200,000*
8	118	21,240
9	115	10,500,000*
10	110	11,520
11	110	6,480,000
12	105	4,500,000*

Test 246 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	6,660
2	110	9,540
3	105	16,740
4	100	13,320
5	95	26,280
6	92	111,600
7	90	52,200
8	88	48,600
9	86	7,500,000*
10	85	4,507,200

* No failure

TABLE 117 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: None
Test Temp: 650°F

Test 247 Stress Ratio = 0.1			Test 248 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	16,560	1	100	5,220
2	128	11,520	2	94	8,820
3	125	15,480	3	90	12,420
4	120	24,480	4	88	32,040
5	118	9,000	5	87	24,480
6	116	10,980	6	85	25,340
7	115	5,800,000*	7	84	18,540
8	112	9,750,000*	8	82	27,360
9	110	14,040	9	80	3,270,000*
10	108	1,100,000	10	80	7,500,000*
11	100	9,700,000*			

* No failure

TABLE 118 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 400°F/100 hr/40 ksi
Test Temp: Room

Test 249 Stress Ratio = 0.1			Test 250 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	8,640	1	130	11,340
2	130	11,880	2	120	10,080
3	120	58,500	3	110	8,460
4	115	109,260	4	105	6,660
5	110	22,320	5	100	34,560
6	100	88,200	6	95	45,000
7	95	154,620	7	90	54,900
8	90	68,400	8	87	69,120
9	90	63,000	9	85	167,760
10	85	7,000,000*	10	83	4,600,000*
11	80	123,840	11	82	10,000,000*
12	75	3,000,000*			
13	70	10,000,000*			

* No failure

TABLE 119 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 400°F/100 hr/40 ksi
Test Temp: 400°F

Test 251 Stress Ratio = 0.1			Test 252 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	9,720	1	110	6,660
2	130	4,860	2	105	13,500
3	120	17,460	3	100	14,940
4	115	21,060	4	95	17,100
5	112	4,680	5	92	8,460
6	110	33,660	6	90	52,200
7	105	8,100	7	88	12,600
8	102	23,940	8	86	13,680
9	100	4,680	9	84	47,160
10	95	35,640	10	80	7,500,000*
11	90	15,840			
12	88	11,500,000*			
13	85	2,600,000*			

* No failure

TABLE 120 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 400°F/100 hr/40 ksi
Test Temp: 650°F

Test 253 Stress Ratio = 0.1			Test 254 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	7,380	1	110	4,320
2	135	3,240	2	105	1,440
3	130	5,220	3	100	7,560
4	125	5,760	4	95	2,700
5	120	7,380	5	90	22,320
6	115	14,400	6	85	5,400
7	112	31,500	7	80	36,180
8	110	27,000	8	75	11,340
9	108	62,640	9	70	15,840
10	105	7,500,000*	10	65	7,500,000*

* No failure

TABLE 121 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 400°F/1,000 hr/40 ksi
Test Temp: Room

Test 255 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	160	8,460
2	150	11,880
3	140	16,740
4	135	19,620
5	130	89,460
6	125	40,860
7	120	43,200
8	115	45,720
9	110	50,040
10	107.5	5,300,000*
11	105	10,000,000*

Test 256 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	132	4,500
2	120	29,340
3	115	9,180
4	112	20,160
5	105	89,820
6	103	5,580
7	99	24,660
8	96	9,180
9	92	137,340
10	80	98,820
11	79	10,000,000*
12	72	10,000,000*
13	65	360,900
14	60	14,500,000*

* No failure

TABLE 122 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 400°F/1,000 hr/40 ksi
Test Temp: 400°F

Test 257 Stress Ratio = 0.1			Test 258 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	1,620	1	115	3,960
2	135	11,340	2	105	1,800
3	130	10,800	3	100	6,300
4	125	9,540	4	95	39,960
5	120	7,740	5	90	21,960
6	115	26,460	6	80	29,880
7	110	17,460	7	85	23,580
8	105	37,620	8	80	48,240
9	100	37,080	9	78	206,280
10	98	2,000,000*	10	76	5,648,840
11	95	10,000,000*	11	72	2,000,000*

* No failure

TABLE 123 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 400°F/1,000 hr/40 ksi
Test Temp: 650°F

Test 259 Stress Ratio = 0.1			Test 260 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	5,040	1	120	1,080
2	135	8,640	2	100	4,500
3	130	13,680	3	90	3,600
4	125	12,600	4	85	9,900
5	120	13,500	5	80	25,920
6	115	5,000,000*	6	75	83,700
7	115	1,000,000*	7	72	40,320
8	110	39,600	8	70	25,560
9	105	29,700	9	68	3,000,000*
10	100	10,000,000*	10	65	7,500,000*

* No failure

TABLE 124 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 400°F/5,000 hr/40 ksi
Test Temp: Room

Test 261 Stress Ratio = 0.1			Test 262 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	160	7,200	1	120	5,760
2	150	9,900	2	115	29,700
3	145	13,680	3	110	38,700
4	140	28,000	4	105	27,360
5	135	23,400	5	100	16,560
6	130	18,360	6	95	71,460
7	127	17,100	7	90	104,580
8	125	14,040	8	85	51,120
9	120	62,460	9	80	96,120
10	115	74,160	10	75	10,000,000*
11	110	10,000,000*			

* No failure

TABLE 125 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 400°F/5,000 hr/40 ksi
Test Temp: 400°F

Test 263 Stress Ratio = 0.1			Test 264 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	135	4,320	1	110	3,600
2	130	7,560	2	108	8,280
3	125	11,160	3	105	14,400
4	120	14,580	4	100	21,420
5	115	15,480	5	95	17,100
6	110	32,940	6	90	31,860
7	105	24,840	7	85	2,000,000*
8	100	36,000	8	80	39,600
9	97	366,660	9	75	50,220
10	94	7,500,000*	10	70	146,880
			11	65	7,500,000*

* No failure

TABLE 126 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 400°F/5,000 hr/40 ksi
Test Temp: 650°F

Test 265 Stress Ratio = 0.1			Test 266 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	135	6,840	1	100	4,320
2	130	8,640	2	98	10,980
3	128	14,220	3	95	6,480
4	126	17,640	4	94	9,900
5	124	19,620	5	92	9,000
6	122	22,500	6	90	26,460
7	120	10,980	7	88	19,800
8	118	25,020	8	87	22,860
9	116	41,940	9	85	5,750,100
10	114	26,820	10	84	7,500,000*
11	112	17,820			
12	110	7,500,000*			

* No failure

TABLE 127 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 650°F/100 hr/40 ksi
Test Temp: Room

Test 267 Stress Ratio = 0.1			Test 268 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	15,300	1	140	8,640
2	130	39,960	2	130	12,780
3	120	59,040	3	120	14,220
4	115	178,200	4	110	18,900
5	110	55,080	5	105	86,220
6	100	126,180	6	100	64,440
7	95	3,000,000*	7	90	98,280
8	95	100,000	8	87.5	132,300
9	90	10,000,000*	9	85	86,220
10	90	83,520	10	80	160,920
			11	80	220,860
			12	77.5	1,560,000
			13	75	11,500,000*

* No failure

TABLE 128 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 650°F/100 hr/40 ksi
Test Temp: 400°F

Test 269 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	7,560
2	130	11,880
3	125	16,200
4	120	20,880
5	115	16,560
6	110	15,660
7	105	35,100
8	100	19,980
9	95	17,820
10	90	10,000,000*

Test 270 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	1,260
2	110	5,220
3	108	9,900
4	105	7,380
5	102	7,740
6	98	4,680
7	95	23,940
8	92	59,580
9	90	5,940
10	88	3,000,000*
11	85	2,000,000*
12	80	7,500,000*

* No failure

TABLE 129 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 650°F/100 hr/40 ksi
Test Temp: 650°F

Test 271 Stress Ratio = 0.1			Test 272 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	135	6,840	1	120	1,620
2	130	7,920	2	110	4,860
3	128	19,620	3	110	3,240
4	125	11,160	4	105	5,580
5	122	14,400	5	100	14,580
6	120	11,880	6	95	20,160
7	118	12,420	7	92	5,400
8	115	16,920	8	90	8,640
9	112	5,940	9	88	20,880
10	110	15,000,000*	10	85	8,000,000*

* No failure

TABLE 130 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 650°F/1,000 hr/40 ksi
Test Temp: Room

Test 273 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	160	8,460
2	150	7,760
3	140	21,420
4	135	29,160
5	130	38,880
6	125	33,300
7	120	76,320
8	115	29,160
9	110	152,820
10	108	27,720
11	106	31,680
12	102	58,500
13	100	10,000,000**

Test 274 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	5,400
2	130	16,560
3	120	12,780
4	110	36,000
5	100	19,800
6	90	51,480
7	85	129,780
8	80	56,340
9	80	240,840
10	76	8,300,000*
11	70	7,300,000*

* No failure

TABLE 131 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 650°F/1,000 hr/40 ksi
Test Temp: 400°F

Test 275, Stress Ratio = 0.1			Test 276, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	7,560	1	100	9,180
2	140	6,480	2	97	3,600
3	135	7,740	3	95	22,320
4	130	13,320	4	94	41,580
5	125	10,260	5	90	16,920
6	120	6,120	6	88	14,400
7	120	12,420	7	85	17,640
8	118	18,180	8	82	2,500,000*
9	116	25,380	9	80	100,800
10	115	7,600,000*	10	77	12,000,000*

* No failure

TABLE 132 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 650°F/1,000 hr/40 ksi
Test Temp: 650°F

Test 277 Stress Ratio = 0.1			Test 278 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	5,400	1	120	1,800
2	138	2,340	2	110	2,700
3	135	7,560	3	105	2,160
4	132	5,940	4	102	3,240
5	130	21,240	5	100	8,820
6	128	8,100	6	98	4,320
7	125	19,291	7	96	7,740
8	122	8,100	8	94	7,380
9	120	6,557,740	9	92	20,340
10	118	7,500,000*	10	90	8,000,000*

* No failure

TABLE 133 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 650°F/5,000 hr/40 ksi
Test Temp: Room

Test 279 Stress Ratio = 0.1			Test 280 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	170	3,680	1	140	7,380
2	160	14,940	2	130	15,660
3	150	12,060	3	120	28,800
4	140	20,520	4	110	11,700
5	130	20,700	5	105	28,440
6	125	14,760	6	100	102,960
7	120	77,040	7	95	63,720
8	115	27,360	8	90	95,760
9	110	130,680	9	85	55,620
10	105	64,440	10	80	369,000
11	100	8,769,420	11	75	9,500,000*

* No failure

TABLE 134 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 650°F/5,000 hr/40 ksi
Test Temp: 400°F

Test 281 Stress Ratio = 0.1			Test 282 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	2,700	1	120	6,660
2	136	13,320	2	115	6,300
3	132	10,080	3	112	15,840
4	128	8,460	4	110	24,300
5	124	18,000	5	105	35,460
6	120	47,520	6	105	2,000,000*
7	118	4,860	7	100	19,260
8	115	19,080	8	98	19,620
9	112	21,960	9	95	64,260
10	110	19,260	10	90	20,520
11	108	7,500,000*	11	88	3,000,000*
			12	85	4,000,000*

* No failure

TABLE 135 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: PH 14-8 Mo (SRH 1050)
Geometry: Fusion-Welded & Planished
Soak: 650°F/5,000 hr/40 ksi
Test Temp: 650°F

Test 283 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	138	4,140
2	136	5,220
3	134	10,440
4	132	18,000
5	130	4,860
6	128	16,740
7	126	30,780
8	124	12,420
9	122	5,040
10	120	7,500,000*

Test 284 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	2,700
2	115	9,360
3	110	7,740
4	105	4,860
5	100	4,680
6	98	3,420
7	96	5,220
8	94	15,480
9	92	62,460
10	90	6,300
11	88	11,520
12	84	6,120
13	80	7,500,000*

* No failure

TABLE 136 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: None
Test Temp: Room

Test 289, Stress Ratio = 0.1			Test 290, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	150	3,060	1	100	6,480
2	130	3,780	2	90	2,880
3	110	7,380	3	80	6,840
4	90	15,660	4	70	10,260
5	80	12,420	5	60	27,720
6	75	31,320	6	55	36,180
7	70	41,400	7	50	185,580
8	65	42,300	8	40	318,960
9	60	91,620	9	38	335,700
10	55	85,320	10	35	1,708,000
11	50	107,460	11	30	10,000,000**
12	47.5	90,181			
13	45	10,000,000**			
14	40	9,100,000**			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 137 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: None
Test Temp: 400°F

Test 291 Stress Ratio = 0.1			Test 292 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	100	7,740	1	80	5,400
2	90	12,420	2	70	7,740
3	80	18,000	3	65	15,480
4	70	35,640	4	60	26,100
5	65	161,640	5	55	49,860
6	63	98,100	6	50	84,240
7	60	77,200	7	45	118,440
8	58	184,500	8	40	294,840
9	54	390,240	9	36	860,580
10	52	237,420	10	34	2,281,180
11	50	134,280	11	32	1,027,620
12	47	997,560	12	28	5,850,000
13	44	1,294,920			
14	40	1,281,600			
15	35	10,000,000**			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 138 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: None
Test Temp: 650°F

Test 293 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	90	10,030
2	[illegible]	16,020
3	70	21,780
4	65	70,020
5	60	174,780
6	55	208,260
7	50	296,820
8	46	63,000
9	40	1,287,180
10	35	8,700,000**

Test 294 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	70	6,300
2	65	10,800
3	60	18,180
4	55	22,320
5	52	37,440
6	50	45,540
7	45	68,580
8	42	117,720
9	40	284,580
10	38	240,300
11	37	45,360
12	35	8,000,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 139 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 400°F/100 hr/40 ksi
Test Temp: Room

Test 295 Stress Ratio = 0.1			Test 296 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	120	6,660	1	90	3,600
2	110	7,560	2	80	8,820
3	100	12,420	3	70	13,680
4	90	14,220	4	60	40,500
5	80	27,720	5	50	100,980
6	70	58,860	6	45	35,154
7	60	190,980	7	40	1,107,720
8	55	1,675,260	8	35	2,721,600
9	50	2,456,640	9	30	3,681,600
10	45	328,320	10	27	10,000,000**
11	40	10,000,000**			

* Gross area stress : Net area stress = 1.2 gross area stress
** No failure

TABLE 140 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 400°F/100 hr/40 ksi
Test Temp: 400°F

Test 297 Stress Ratio = 0.1			Test 298 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	110	6,300	1	80	4,860
2	100	8,100	2	70	8,640
3	90	12,600	3	65	19,080
4	80	21,960	4	60	27,180
5	70	39,960	5	55	58,500
6	60	130,860	6	50	49,320
7	55	298,620	7	45	119,880
8	50	626,760	8	40	240,120
9	45	475,520	9	35	545,220
10	40	2,497,860	10	30	1,738,800
11	35	6,148,800	11	25	12,000,000**

* Gross area stress : Net area stress = 1.2 gross area stress
** No failure

TABLE 141 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 400°F/100 hr/40 ksi
Test Temp: 650°F

Test 299 Stress Ratio = 0.1			Test 300 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	100	5,220	1	70	6,840
2	95	4,680	2	65	6,120
3	90	5,580	3	60	11,700
4	85	10,440	4	55	16,560
5	80	14,040	5	50	35,820
6	75	30,420	6	45	168,660
7	70	35,280	7	40	150,300
8	65	34,200	8	35	1,450,260
9	60	81,000	9	30	84,240
10	55	299,520	10	28	9,000,000**
11	50	195,840			
12	45	589,680			
13	40	1,463,760			
14	37	7,500,000**			

* Gross area stress : Net area stress = 1.2 gross area stress
** No failure

TABLE 142 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 400°F/1,000 hr/40 ksi
Test Temp: Room

Test 301 Stress Ratio = 0.1			Test 302 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	110	6,120	1	80	7,380
2	100	14,400	2	70	10,260
3	90	12,600	3	60	27,000
4	80	25,920	4	50	44,100***
5	70	39,420	5	48	274,320
6	60	113,760	6	45	479,880
7	55	725,760	7	40	327,960
8	52	771,840	8	35	2,532,420
9	48	2,788,200	9	30	916,740
10	45	1,533,600	10	25	14,000,000**
11	40	7,000,000**			

* Gross area stress : Net area stress = 1.2 gross area stress
** No failure
*** Failed at the clamp

TABLE 143 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 400°F/1,000 hr/40 ksi
Test Temp: 400°F

Test 303 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	100	6,480
2	90	10,260
3	80	19,980
4	75	20,880
5	70	25,920
6	65	127,080
7	60	202,860
8	55	256,320
9	50	326,340
10	45	6,915,600

Test 304 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	80	2,880
2	70	7,380
3	60	21,420
4	55	23,940
5	50	64,620
6	45	172,620
7	40	549,180
8	35	5,338,800
9	30	2,284,420
10	25	3,907,440
11	22	7,500,000**

* Gross area stress : Net area stress = 1.2 gross area stress
** No failure

TABLE 144 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 400°F/1,000 hr/40 ksi
Test Temp: 650°F

Test 305 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	100	2,880
2	95	2,880
3	90	6,120
4	85	7,740
5	80	13,320
6	75	14,580
7	70	24,480
8	65	81,720
9	60	90,720
10	55	86,400
11	50	357,300
12	47	319,680
13	40	7,500,000**

Test 306 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	65	9,180
2	60	10,080
3	55	20,160
4	50	26,460
5	45	55,980
6	40	89,820
7	38	378,180
8	35	297,540
9	33	502,560
10	30	7,500,000**

* Gross area stress : Net area stress = 1.2 gross area stress
** No failure

TABLE 145 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 400°F/5,000 hr/40 ksi
Test Temp: Room

Test 307 Stress Ratio = 0.1			Test 308 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi) *	Applied Cycles	Specimen Number	f_{max} (ksi) *	Applied Cycles
1	120	4,860	1	80	7,380
2	100	11,340	2	70	13,860
3	90	18,900	3	65	25,740
4	85	42,300	4	60	58,320
5	80	29,520	5	55	102,960
6	75	30,420	6	50	248,040
7	70	252,180	7	45	217,620
8	60	78,480	8	40	705,600
9	55	212,940	9	36	2,061,000
10	50	1,163,700	10	32	9,000,000**
11	47	3,063,000			
12	44	768,960			
13	40	7,389,000			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 146 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 400°F/5,000 hr/40 ksi
Test Temp: 400°F

Test 309 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	105	6,480
2	100	9,000
3	90	9,720
4	80	14,220
5	75	28,260
6	70	38,880
7	65	108,000
8	60	62,820
9	55	342,900
10	50	486,000
11	45	511,200
12	40	645,120**
13	35	5,311,080

Test 310 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles
1	75	5,760
2	70	11,520
3	60	19,440
4	55	43,200
5	50	66,060
6	45	117,540
7	40	290,880
8	35	463,860
9	30	3,036,600
10	25	8,000,000***

* Gross area stress: Net area stress = 1.2 gross area stress
** Failed at the clamp
*** No failure

TABLE 147 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 400°F/5,000 hr./40 ksi
Test Temp: 650°F

Test 311 Stress Ratio = 0.1			Test 312 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	95	5,220	1	70	8,640
2	90	9,540	2	65	11,520
3	80	19,980	3	60	17,280
4	70	26,280	4	55	35,100
5	60	77,400	5	52	57,600
6	50	384,660	6	50	61,200
7	45	412,740	7	45	57,240
8	40	1,026,900	8	40	198,180
9	35	930,780**	9	35	394,020
10	35	8,000,000***	10	30	8,000,000***

* Gross area stress : Net area stress = 1.2 gross area stress
** Failed at the clamp
*** No failure

TABLE 148 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 650°F/100 hr/40 ksi
Test Temp: Room

Test 313 Stress Ratio = 0.1			Test 314 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	110	6,120	1	80	5,580
2	100	10,800	2	75	12,780
3	90	15,480	3	70	16,380
4	80	24,660	4	65	30,060
5	70	51,480	5	60	34,740
6	65	111,060	6	55	44,640
7	60	183,780	7	50	100,440
8	55	660,420	8	45	139,860
9	50	473,220	9	40	629,280
10	45	2,365,200	10	35	4,113,540
11	40	4,955,000	11	30	10,200,000**
12	35	8,883,000			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 149 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 650°F/100 hr/40 ksi
Test Temp: 400°F

Test 315, Stress Ratio = 0.1			Test 316, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	100	7,740	1	80	5,040
2	90	11,160	2	75	6,300
3	80	22,500	3	70	8,820
4	70	44,640	4	65	21,600
5	60	132,120	5	60	22,500
6	55	189,000	6	55	57,060
7	50	674,640	7	50	146,150
8	45	741,060	8	45	420,300
9	42	565,740	9	40	430,000
10	38	2,466,000	10	35	1,124,600
11	35	7,012,800	11	30	1,158,480
			12	25	9,000,000**

* Gross area stress : Net area stress = 1.2 gross area stress
** No failure

TABLE 150 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 650°F/100 hr/40 ksi
Test Temp: 650°F

Test 317 Stress Ratio = 0.1			Test 318 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	90	5,760	1	75	6,480
2	80	18,900	2	70	10,080
3	70	80,460	3	60	17,100
4	65	74,520	4	50	41,940
5	60	106,380	5	45	130,320
6	55	123,300	6	40	228,600
7	50	283,860	7	35	309,240
8	45	787,500	8	34	592,200
9	42	769,320	9	32	828,900
10	40	2,233,800	10	30	1,893,600
11	38	7,500,000**	11	26	12,000,000**

* Gross area stress : Net area stress = 1.2 gross area stress
** No failure

TABLE 151 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 650°F/1,000 hr/40 ksi
Test Temp: Room

Test 319 Stress Ratio = 0.1			Test 320 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	110	4,320	1	90	3,420
2	100	10,800	2	80	8,460
3	90	16,560	3	70	15,840
4	80	34,920	4	65	30,600
5	70	101,700	5	60	65,340
6	65	73,980	6	55	83,160
7	60	366,840	7	50	348,480
8	57	569,160	8	47	409,500
9	55	3,176,820	9	45	160,200
10	52	1,751,400	10	42	3,070,800
11	50	3,644,820	11	40	1,019,160
12	47	3,452,400	12	36	5,533,200
13	43	10,000,000**			

* Gross area stress : Net area stress = 1.2 gross area stress
** No failure

TABLE 152 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 650°F/1,000 hr/40 ksi
Test Temp: 400°F

Test 321 Stress Ratio = 0.1			Test 322 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	100	7,020	1	80	4,500
2	90	10,080	2	70	11,160
3	80	23,040	3	60	26,460
4	70	41,760	4	55	37,620
5	60	156,240	5	50	66,240
6	55	294,480	6	45	158,580
7	50	345,960	7	40	334,620
8	45	1,528,200	8	35	558,360
9	40	544,500	9	30	3,119,400
10	35	12,200,200**	10	25	11,403,000

* Gross area stress : Net area stress = 1.2 Gross area stress
** No failure

TABLE 153 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 650°F/1,000 hr/40 ksi
Test Temp: 650°F

Test 323 Stress Ratio = 0.1			Test 324 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	100	3,960	1	65	6,480
2	95	5,760	2	60	9,360
3	90	5,760	3	55	19,260
4	85	7,200	4	50	39,060
5	80	10,800	5	45	63,360
6	75	11,340	6	42	75,420
7	70	17,820	7	40	375,840
8	65	57,600	8	35	595,800
9	60	104,400	9	30	4,849,200
10	55	89,640	10	26	9,000,000**
11	50	239,760			
12	46	2,068,920			
13	42	728,820			
14	36	7,500,000**			

* Gross area stress : Net area stress = 1.2 gross area stress
** No failure

TABLE 154 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 650°F/5,000 hr/40 ksi
Test Temp: Room

Test 325 Stress Ratio = 0.1			Test 326 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	120	4,500	1	80	3,600
2	100	8,640	2	70	11,880
3	90	8,640	3	60	40,680
4	80	24,840	4	55	29,340
5	70	53,640	5	50	143,460
6	65	25,200	6	47	115,740
7	60	437,220	7	45	731,520
8	55	66,960	8	40	231,840
9	50	89,460	9	35	2,041,200
10	45	4,497,660	10	30	7,500,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 155 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-notched
Soak: 650°F/5,000 hr/40 ksi
Test Temp: 400°F

Test 327 Stress Ratio = 0.1			Test 328 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	90	7,200	1	75	6,660
2	85	9,180	2	70	10,800
3	80	14,040	3	60	23,400
4	75	24,840	4	55	53,280
5	70	27,540	5	50	73,620
6	65	39,420	6	45	304,200
7	60	172,800	7	40	235,080
8	55	302,040	8	35	1,665,720
9	50	339,660	9	30	2,680,020
10	45	559,440	10	25	8,000,000**
11	40	7,500,000**			

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 156 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Center-Notched
Soak: 650°F/5,000 hr/40 ksi
Test Temp: 650°F

Test 329 Stress Ratio = 0.1			Test 330 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)*	Applied Cycles	Specimen Number	f_{max} (ksi)*	Applied Cycles
1	100	6,480	1	70	7,020
2	90	13,140	2	65	10,980
3	80	19,800	3	60	25,380
4	75	205,380	4	55	61,560
5	70	58,600	5	50	69,480
6	65	119,160	6	45	160,020
7	60	167,040	7	40	334,620
8	55	157,680	8	35	1,666,440
9	50	763,380	9	30	2,079,540
10	45	4,283,640	10	25	8,000,000**

* Gross area stress: Net area stress = 1.2 gross area stress
** No failure

TABLE 157 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: None
Test Temp: Room

Test 341 Stress Ratio = 0.1			Test 342 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	220	13,140	1	150	19,440
2	210	23,040	2	140	24,120
3	190	36,000	3	130	52,560
4	170	46,440	4	120	87,480
5	155	62,820	5	110	82,440
6	140	121,700	6	100	98,820
7	130	145,800	7	95	208,980
8	120	227,100	8	90	366,300
9	115	556,920	9	85	582,840
10	110	3,116,700	10	82.5	745,920
11	105	3,788,100	11	80	10,000,000*
12	100	286,560			
13	100	2,732,400			
14	95	2,941,700			
15	90	5,310,000			
16	85	10,000,000*			

* No failure

TABLE 158 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: None
Test Temp: 400°F

Test 343 Stress Ratio = 0.1			Test 344 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	200	7,380	1	140	14,040
2	190	18,540	2	130	24,300
3	180	18,000	3	120	47,340
4	170	45,540	4	110	64,240
5	160	117,360	5	100	144,720
6	155	15,660	6	95	178,200
7	150	75,600	7	90	335,880
8	140	92,520	8	85	198,000
9	130	78,300	9	80	431,820
10	120	161,460	10	75	513,000
11	110	374,040	11	70	1,666,800
12	100	535,680	12	65	2,037,600
13	90	1,810,800	13	60	13,000,000*
14	85	2,842,200			
15	80	5,576,580			

* No failure

TABLE 159 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: None
Test Temp: 650°F

Test 345 Stress Ratio = 0.1			Test 346 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	170	21,060	1	140	11,520
2	160	32,220	2	130	17,460
3	150	80,640	3	120	6,840
4	140	88,020	4	115	62,840
5	130	129,420	5	110	70,740
6	120	302,580	6	105	126,540
7	115	158,220	7	100	90,180
8	110	253,300	8	95	193,860
9	105	99,000	9	90	1,260,000
10	100	534,960	10	88	324,000
11	95	362,340	11	85	207,180
12	90	889,020	12	83	281,880
13	85	1,600,200	13	80	192,600
14	80	249,120	14	75	826,920
15	80	12,600,000*	15	70	549,720
			16	65	6,321,600

* No failure

TABLE 160 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 400°F/100 hr/40 ksi
Test Temp: Room

Test 347 Stress Ratio = 0.1			Test 348 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	200	7,920	1	180	9,540
2	190	30,240	2	160	10,080
3	180	15,840	3	150	32,220
4	170	56,700	4	140	23,220
5	160	78,480	5	130	98,280
6	150	70,380	6	120	88,380
7	140	223,200	7	110	162,900
8	135	228,240	8	100	486,360
9	130	267,120	9	90	342,360
10	125	1,125,000	10	80	516,420
11	120	189,000	11	75	2,879,820
12	115	465,480	12	70	10,000,000*
13	112	408,060			
14	110	642,600			
15	105	887,400			
16	100	4,334,760			

* No failure

TABLE 161 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 400°F/100 hr/40 ksi
Test Temp: 400°F

Test 349 Stress Ratio = 0.1			Test 350 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	220	4,140	1	160	4,860
2	200	10,800	2	140	17,100
3	180	29,160	3	120	47,340
4	160	37,440	4	100	69,840
5	140	38,880	5	90	75,060
6	130	147,060	6	80	300,060
7	120	291,960	7	75	716,400
8	110	382,140	8	70	942,840
9	100	933,840	9	65	1,319,400
10	95	597,600	10	60	491,040
11	90	240,840	11	57	7,000,000*
12	80	2,963,700	12	50	7,500,000*
13	75	3,207,600			
14	70	7,500,000*			

* No failure

TABLE 162 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 400°F/100 hr/40 ksi
Test Temp: 650°F

Test 351 Stress Ratio = 0.1			Test 352 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	160	16,740	1	140	7,020
2	150	17,280	2	130	6,120
3	140	20,160	3	120	5,400
4	130	30,760	4	110	9,360
5	120	56,700	5	100	10,980
6	110	83,520	6	90	50,760
7	100	84,240	7	85	62,460
8	95	271,980	8	80	303,660
9	90	280,800	9	77	151,200
10	85	3,366,360	10	70	1,128,780
11	80	1,122,840	11	65	2,166,660
12	75	3,508,200	12	60	6,220,260

TABLE 163 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 400°F/1,000 hr/40 ksi
Test Temp: Room

Test 353 Stress Ratio = 0.1			Test 354 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	220	9,360	1	180	4,140
2	200	18,360	2	160	18,180
3	180	59,580	3	140	37,080
4	170	67,320	4	130	103,680
5	160	98,100	5	120	144,180
6	150	105,660	6	100	137,520
7	140	235,080	7	90	294,120
8	130	220,320	8	85	272,520
9	120	166,500	9	80	315,540
10	110	261,000	10	75	293,760
11	100	909,720	11	70	1,030,320
12	95	4,338,000	12	65	10,000,000*
13	90	1,319,400			
14	85	3,222,360			
15	80	11,400,000*			

* No failure

TABLE 164 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, aged at 1275°F
Geometry: Unnotched
Soak: 400°F/1,000 hr/40 ksi
Test Temp: 400°F

Test 355 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	220	5,220
2	200	16,740
3	180	28,260
4	160	68,040
5	140	184,320
6	120	229,680
7	100	347,760
8	95	115,380
9	90	618,300
10	80	3,535,200
11	75	2,464,200
12	68	7,800,000*

Test 356 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	5,760
2	140	14,940
3	130	23,400
4	120	51,300
5	110	95,040
6	105	82,980
7	100	58,500
8	100	95,400
9	95	41,400
10	90	67,680
11	90	217,800
12	82	357,840
13	78	406,080
14	70	1,778,400
15	65	1,029,000
16	65	1,425,420
17	60	1,270,260
18	55	7,558,200

* No failure

TABLE 165 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 400°F/1,000 hr/40 ksi
Test Temp: 650°F

Test 357 Stress Ratio = 0.1			Test 358 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	170	9,000	1	120	6,120
2	160	23,400	2	110	8,280
3	150	12,060	3	105	21,600
4	140	25,740	4	100	39,060
5	130	79,740	5	95	55,980
6	120	59,580	6	90	56,520
7	110	179,100	7	85	185,400
8	105	139,320	8	80	218,880
9	100	213,840	9	75	120,060
10	90	536,220	10	70	802,080
11	85	1,205,100	11	65	951,660
12	80	399,240	12	60	2,709,540
13	75	7,500,000*			

* No failure

TABLE 166 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 400°F/5,000 hr/40 ksi
Test Temp: Room

Test 359 Stress Ratio = 0.1			Test 360 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	220	2,160	1	160	1,800
2	200	9,540	2	150	9,900
3	180	15,480	3	130	11,160
4	160	44,280	4	120	19,440
5	150	29,520	5	110	47,520
6	140	57,060*	6	100	35,100
7	130	67,140	7	90	195,560
8	120	128,880	8	80	577,800
9	110	478,800	9	70	1,102,320
10	100	262,980	10	65	1,107,000
11	90	579,600	11	60	4,818,600
12	80	1,431,360			
13	75	177,660*			
14	75	7,500,000**			

* Failed at the clamp
** No failure

TABLE 167 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 400°F/5,000 hr/40 ksi
Test Temp: 400°F

Test 361 Stress Ratio = 0.1			Test 362 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	200	15,120	1	140	6,840
2	180	23,220	2	130	36,000
3	160	29,880	3	120	62,100
4	140	81,600	4	110	147,600
5	120	305,280	5	100	270,000
6	105	439,380	6	90	110,160
7	90	2,054,160	7	80	470,340
8	85	1,403,640	8	70	2,483,820
9	75	1,761,120	9	65	1,270,800
10	70	3,881,340	10	60	1,297,980
11	65	7,500,000*	11	55	1,094,400
			12	50	8,000,000*

* No failure

TABLE 168 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 400°F/5,000 hr/40 ksi
Test Temp: 650°F

Test 363 Stress Ratio = 0.1			Test 364 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	180	1,800	1	125	4,500
2	175	21,960	2	120	11,520
3	170	26,280	3	110	27,720
4	160	31,680	4	100	107,760
5	150	42,660	5	90	57,780
6	140	64,440	6	85	136,800
7	130	64,080	7	80	723,420
8	120	90,540	8	75	635,400
9	110	191,880	9	65	1,808,640
10	100	483,840	10	60	7,500,000*
11	90	1,443,060			
12	80	7,500,000*			

* No failure

TABLE 169 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 650°F/100 hr/40 ksi
Test Temp: Room

Test 365, Stress Ratio = 0.1			Test 366, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	200	9,360	1	160	7,920
2	180	16,380	2	150	21,420
3	160	12,060	3	140	17,460
4	150	42,120	4	130	26,640
5	140	128,340	5	120	96,120
6	130	70,020	6	110	59,400
7	120	214,200	7	100	391,860
8	110	1,254,600	8	90	1,136,880
9	100	1,789,740	9	80	97,920
10	90	11,500,000*	10	75	870,300
			11	70	2,943,000
			12	65	197,100
			13	60	12,400,000*

* No failure

TABLE 170 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 650°F/100 hr/40 ksi
Test Temp: 400°F

Test 367 Stress Ratio = 0.1			Test 368 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	220	5,760	1	180	8,460
2	200	14,400	2	160	9,900
3	180	23,220	3	140	31,320
4	160	68,400	4	120	60,300
5	140	179,280	5	100	129,060
6	120	580,860	6	90	106,020
7	100	1,839,600	7	85	462,240
8	90	3,675,600	8	80	1,171,260
9	85	2,363,400	9	75	2,192,400
10	80	2,367,180	10	70	741,060
11	75	8,000,000*	11	67	1,819,800
			12	60	2,275,200
			13	55	8,735,400

* No failure

TABLE 171 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 650°F/100 hr/40 ksi
Test Temp: 650°F

Test 369 Stress Ratio = 0.1			Test 370 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	175	17,280	1	140	8,280
2	165	24,120	2	120	16,740
3	160	59,220	3	110	55,260
4	150	23,220	4	100	92,520
5	140	39,600	5	90	463,860
6	130	42,840	6	85	262,980
7	120	28,440	7	80	94,680
8	115	112,860	8	75	1,237,140
9	110	26,280	9	70	3,430,620
10	105	273,960	10	60	1,459,980
11	100	503,100	11	55	7,500,000*
12	95	329,760			
13	90	224,460			
14	85	7,500,000*			

* No failure

TABLE 172 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 650°F/1,000 hr/40 ksi
Test Temp: Room

Test 371 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	210	22,680
2	200	18,900
3	190	36,720
4	180	48,420
5	170	76,860
6	160	59,940
7	150	115,200
8	140	134,460
9	130	137,700
10	120	1,340,100
11	110	1,121,760
12	105	1,632,060
13	102	1,143,180*
14	100	1,260,000
15	95	5,251,680

Test 372 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	180	4,320
2	160	28,620
3	140	47,160
4	120	115,380
5	100	227,700
6	90	278,820
7	80	425,880
8	75	6,901,740
9	72	1,915,920
10	65	7,390,800

* Failed at the clamp

TABLE 173 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 650°F/1,000 hr/40 ksi
Test Temp: 400°F

Test 373 Stress Ratio = 0.1			Test 374 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	200	7,560	1	170	6,120
2	180	14,040	2	160	13,500
3	160	16,560	3	140	19,800
4	140	104,940	4	120	40,140
5	120	229,200	5	110	91,080
6	110	196,200	6	100	346,680
7	100	1,002,960	7	90	177,840
8	90	871,020	8	80	594,540
9	80	2,676,600	9	75	756,180
10	70	8,344,800	10	70	956,340
			11	65	5,449,180
			12	60	2,707,920
			13	55	5,095,800

TABLE 174 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 650°F/1,000 hr/40 ksi
Test Temp: 650°F

Test 375, Stress Ratio = 0.1			Test 376, Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	160	12,780	1	120	13,500
2	150	95,560	2	115	60,480
3	140	133,020	3	110	11,340
4	130	134,280	4	105	27,360
5	120	109,800	5	100	75,600
6	110	77,580	6	95	34,200
7	100	719,280	7	90	42,660
8	95	1,090,620	8	90	67,500
9	90	843,120	9	85	206,100
10	85	1,350,180	10	80	266,760
11	80	2,925,720	11	75	99,720
12	75	5,541,480	12	70	329,220
			13	65	1,121,040
			14	60	1,336,140
			15	55	7,500,000*

* No failure

TABLE 175 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 650°F/5,000 hr/40 ksi
Test Temp: Room

Test 377 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	200	11,520
2	190	12,060
3	180	18,360
4	160	41,580
5	140	287,820
6	120	88,920
7	110	1,442,340
8	100	690,120
9	90	1,967,400
10	80	2,635,200
11	75	3,061,080

Test 378 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	9,000
2	130	20,160
3	120	44,640
4	110	26,460
5	105	44,100
6	100	27,000
7	95	147,240
8	90	106,920
9	85	362,160
10	85	73,440*
11	80	353,880
12	77	387,720
13	70	1,128,780
14	65	1,355,220
15	60	9,000,000**

* Failed at the clamp
** No failure

TABLE 176 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 650°F/5,000 hr./40 ksi
Test Temp: 400°F

Test 379 Stress Ratio = 0.1			Test 380 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	200	9,180	1	150	1,980
2	180	26,640	2	140	11,880
3	170	38,800	3	130	12,060
4	160	59,220	4	120	8,460
5	140	28,620	5	110	74,700
6	120	97,920	6	100	161,640
7	100	111,600	7	90	134,280
8	90	297,720	8	80	629,280
9	80	1,655,100	9	70	454,500
10	70	1,754,820	10	60	1,748,520
11	60	7,500,000*	11	55	4,075,380
			12	50	8,000,000*

* No failure

TABLE 177 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Unnotched
Soak: 650°F/5,000 hr./40 ksi
Test Temp: 650°F

Test 381 Stress Ratio = 0.1			Test 382 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	190	8,100	1	130	10,080
2	180	13,320	2	120	12,060
3	170	14,400	3	110	34,740
4	160	49,860	4	100	39,780
5	150	31,860	5	90	144,000
6	140	59,760	6	80	195,300
7	130	67,860	7	75	583,740
8	120	159,300	8	70	935,640
9	110	237,240	9	65	1,846,800
10	100	578,880	10	60	3,917,700
11	90	1,373,040	11	55	7,500,000*
12	80	8,000,000*			

* No failure

TABLE 178 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: None
Test Temp: Room

Test 387 Stress Ratio = 0.1			Test 388 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	6,480	1	120	1,800
2	120	15,120	2	115	2,160
3	115	69,300	3	110	15,480
4	110	75,600	4	100	32,580
5	105	89,820	5	90	37,260
6	100	165,960	6	80	78,120
7	95	166,140	7	75	184,320
8	90	314,280	8	70	70,920
9	85	583,920	9	65	366,660
10	80	451,440	10	60	480,780
11	75	298,820	11	60	376,920
12	70	1,646,280	12	55	9,400,000*
13	65	838,800			
14	60	190,620			
15	58	10,000,000*			

* No failure

TABLE 179 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: None
Test Temp: 400°F

Test 389 Stress Ratio = 0.1			Test 390 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	4,860	1	105	1,080
2	130	14,880	2	100	8,820
3	120	25,740	3	90	10,620
4	110	34,020	4	85	25,740
5	100	42,120	5	80	171,000
6	95	131,400	6	75	96,660
7	90	653,220	7	70	339,120
8	87	619,200	8	65	686,800
9	84	671,760	9	60	658,800
10	80	478,260	10	55	2,451,600
11	78	84,780	11	50	5,180,400
12	75	3,081,160	12	45	3,196,800
13	70	3,893,400	13	40	7,500,000*
14	65	10,200,000*			

* No failure

TABLE 180 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: None
Test Temp: 650°F

Test 391 Stress Ratio = 0.1			Test 392 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	105	1,260	1	100	5,760
2	100	30,241	2	95	3,600
3	95	12,600	3	90	20,340
4	93	19,620	4	85	13,860
5	93	75,240	5	80	17,280
6	90	739,080	6	78	145,800
7	85	759,780	7	76	90,360
8	80	2,128,860	8	74	425,340
9	75	1,486,800	9	70	423,360
10	70	7,900,000*	10	68	654,480
			11	65	8,100,000

* No failure

TABLE 181 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 400°F/100 hr/40 ksi
Test Temp: Room

Test 393 Stress Ratio = 0.1			Test 394 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	7,920	1	120	7,380
2	140	10,440	2	110	19,440
3	130	22,140	3	100	14,220
4	120	27,900	4	90	27,000
5	110	58,500	5	85	185,940
6	105	50,020	6	80	261,540
7	100	188,820	7	75	384,840
8	95	128,160	8	70	1,353,420
9	92	1,968,300	9	65	5,648,400
10	90	3,479,400	10	62	4,138,200
11	86	2,922,480	11	58	1,370,160*
12	82	9,000,000**	12	57	1,435,680
			13	53	3,209,580

* Failed at the clamp
** No Failure

TABLE 182 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 400°F/100 hr/40 ksi
Test Temp: 400°F

Test 395 Stress Ratio = 0.1			Test 396 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	3,060	1	110	1,720
2	125	12,600	2	105	10,080
3	120	16,740	3	100	5,940
4	110	17,820	4	95	24,840
5	100	30,060	5	90	55,800
6	90	41,040	6	85	122,760
7	88	74,700	7	80	50,400
8	85	970,380	8	75	448,920
9	80	1,752,480	9	70	642,600
10	75	4,765,140	10	65	310,140
11	70	6,269,400	11	60	1,168,920
			12	55	2,022,300
			13	50	1,277,280
			14	45	7,500,000*

* No failure

TABLE 183 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 400°F/100 hr/40 ksi
Test Temp: 650°F

Test 397 Stress Ratio = 0.1			Test 398 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	110	35,460	1	100	2,520
2	107	58,680	2	95	22,320
3	105	13,860	3	90	8,460
4	102	9,540	4	85	51,840
5	100	4,320	5	80	14,580
6	97	925,200	6	75	153,540
7	95	27,180	7	70	366,840
8	92	517,500	8	65	652,680
9	90	562,680	9	60	2,044,620
10	87	2,019,600	10	55	2,266,380
11	85	5,355,900	11	50	3,744,706
12	80	729,000	12	45	7,500,000*

* No failure

TABLE 184 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 400°F/1,000 hr/40 ksi
Test Temp: Room

Test 399 Stress Ratio = 0.1			Test 400 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	160	900	1	120	4,320
2	150	4,140	2	110	5,220
3	140	12,780	3	100	13,140
4	130	35,280	4	96	22,860
5	120	36,360	5	95	125,280
6	110	51,840	6	90	57,600
7	105	73,080	7	85	119,880
8	100	36,720	8	80	561,960
9	95	152,100	9	78	599,940
10	90	2,691,000	10	75	11,200,000*
11	86	135,180			
12	82	5,568,840			
13	80	4,649,940			

* No failure

TABLE 185 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 400°F/1,000 hr/40 ksi
Test Temp: 400°F

Test 401 Stress Ratio = 0.1			Test 402 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	8,820	1	110	7,560
2	120	46,080	2	100	20,340
3	120	22,140	3	95	22,680
4	110	40,500	4	90	14,220
5	100	97,380	5	85	75,060
6	95	644,220	6	80	47,700
7	90	1,144,260	7	75	375,840
8	88	531,180	8	70	781,560
9	85	928,080	9	65	838,980
10	80	1,006,020	10	60	1,262,880
11	75	2,646,000	11	55	3,205,800
12	70	10,000,000*	12	50	6,930,540

* No failure

TABLE 186 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 400°F/1,000 hr/40 ksi
Test Temp: 650°F

Test 403 Stress Ratio = 0.1			Test 404 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	5,580	1	100	12,960
2	115	14,220	2	95	1,980
3	110	9,540	3	90	9,360
4	105	361,080	4	85	35,280
5	100	38,880	5	80	51,660
6	95	536,040	6	80	191,520
7	90	766,440	7	75	4,860
8	85	822,600	8	70	36,720
9	80	3,551,760	9	65	1,384,740
10	75	7,500,000*	10	60	10,200,000*

* No failure

TABLE 187 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 400°F/5,000 hr./40 ksi
Test Temp: Room

Test 405 Stress Ratio = 0.1			Test 406 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	130	5,400	1	100	5,220
2	120	16,020	2	95	7,740
3	110	23,760	3	90	8,820
4	100	38,340	4	85	79,200
5	90	57,060	5	80	26,640
6	88	421,200	6	75	22,500
7	85	451,440	7	70	103,860
8	80	934,020*	8	65	102,240
9	77	4,095,000	9	60	2,403,000
10	74	3,531,600	10	55	8,000,000**
11	70	963,180			
12	65	7,500,000**			

* Failed at the clamp
** No failure

TABLE 188 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 400°F/5,000 hr./40 ksi
Test Temp: 400°F

Test 407 Stress Ratio = 0.1			Test 408 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	7,560	1	90	3,240
2	115	14,040	2	90	8,280
3	110	52,020	3	80	27,360
4	100	48,060	4	70	41,940
5	95	53,640	5	65	46,440
6	90	96,660	6	60	581,400
7	85	75,240	7	55	143,460
8	80	2,365,200	8	50	2,538,000
9	75	102,060	9	45	1,842,120
10	70	2,039,400	10	40	7,500,000*
11	65	1,255,100			
12	60	7,500,000*			

* No failure

TABLE 189 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 400°F/5,000 hr./40 ksi
Test Temp: 650°F

Test 409 Stress Ratio = 0.1			Test 410 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	1,800	1	95	1,080
2	110	15,300	2	90	11,700
3	105	2,700	3	85	13,860
4	100	184,500	4	80	20,160
5	95	669,420	5	75	5,040
6	90	20,840	6	70	37,800
7	85	154,260	7	65	260,280
8	80	1,187,100	8	60	822,600
9	75	365,500	9	55	290,880
10	70	1,809,000	10	50	1,632,060
11	65	61,380	11	45	8,000,000*
12	65	1,224,720			
13	60	7,500,000*			

* No failure

TABLE 190 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 650°F/100 hr/40 ksi
Test Temp: Room

Test 411 Stress Ratio = 0.1			Test 412 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	1,620	1	120	6,660
2	130	9,180	2	110	15,300
3	125	11,700	3	100	18,720
4	120	17,640	4	90	43,920
5	110	18,360	5	85	186,480
6	105	96,480	6	80	537,712
7	100	80,460	7	75	112,680
8	90	4,427,460	8	73	706,320
9	85	4,325,400	9	70	645,480
10	80	3,312,000	10	67	1,806,300
11	78	5,987,700	11	65	3,569,940
12	76	795,060	12	62	11,500,000*
13	74	10,000,000*			

* No failure

TABLE 191 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 650°F/100 hr/40 ksi
Test Temp: 400°F

Test 413 Stress Ratio = 0.1			Test 414 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	125	4,680	1	100	8,640
2	120	16,200	2	95	20,700
3	110	26,800	3	90	5,040
4	100	16,200	4	85	31,680
5	95	54,720	5	80	29,520
6	90	994,680	6	75	36,720
7	85	1,073,700	7	70	42,840
8	80	206,640	8	65	360,540
9	75	2,344,500	9	60	2,280,960
10	70	10,000,000*	10	50	1,971,000
			11	45	3,013,200
			12	40	7,700,000*

* No failure

TABLE 192 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 650°F/100 hr/40 ksi
Test Temp: 650°F

Test 415 Stress Ratio = 0.1			Test 416 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	115	18,900	1	100	1,260
2	110	31,680	2	95	12,420
3	105	18,000	3	90	8,460
4	102	47,700	4	85	175,500
5	100	23,040	5	80	204,480
6	97	23,760	6	75	700,560
7	95	42,300	7	70	315,540
8	92	105,840	8	65	158,940
9	90	894,420	9	60	261,360
10	85	1,717,740	10	55	5,028,480
11	80	1,749,600	11	50	7,700,000*
12	75	3,713,580			

* No failure

TABLE 193 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 650°F/1,000 hr/40 ksi
Test Temp: Room

Test 417 Stress Ratio = 0.1			Test 418 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	1,440	1	110	8,640
2	140	9,540	2	105	37,080
3	130	19,620	3	100	39,060
4	120	20,160	4	90	65,340
5	110	84,420	5	85	48,600
6	110	44,640	6	80	188,640
7	100	120,060	7	75	1,494,360
8	95	246,780	8	70	1,052,820
9	90	2,269,800	9	65	2,158,200
10	85	321,660	10	63	15,300,000*
11	80	3,002,040			
12	75	2,944,800			
13	70	10,000,000*			

* No failure

TABLE 194 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 650°F/1,000 hr/40 ksi
Test Temp: 400°F

Test 419 Stress Ratio = 0.1			Test 420 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	150	3,960	1	100	6,480
2	140	12,780	2	95	35,820
3	130	16,560	3	90	10,620
4	120	18,900	4	85	54,720
5	110	35,280	5	80	383,940
6	100	45,900	6	80	307,800
7	90	159,840	7	75	451,440
8	80	1,399,140	8	70	584,460
9	75	462,780	9	65	814,860
10	70	1,918,440	10	60	831,600
11	65	2,890,080	11	55	2,814,120
12	60	7,510,140	12	50	2,426,400
			13	45	3,092,040
			14	40.	7,500,000*

* No failure

TABLE 195 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 650°F/1,000 hr/40 ksi
Test Temp: 650°F

Test 421 Stress Ratio = 0.1			Test 422 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	115	2,340	1	100	5,400
2	110	12,060	2	95	4,500
3	105	16,920	3	90	7,740
4	100	30,420	4	85	55,980
5	98	66,420	5	80	19,440
6	95	450,720	6	75	18,000
7	90	648,360	7	70	18,900
8	85	592,560	8	68	761,400
9	80	360,180	9	65	408,240
10	75	7,036,920	10	60	1,992,960
			11	55	1,279,620
			12	50	7,529,400

TABLE 196 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 650°F/5,000 hr./40 ksi
Test Temp: Room

Test 423 Stress Ratio = 0.1			Test 424 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	140	7,920	1	115	7,740
2	130	4,320	2	110	15,300
3	125	9,540	3	105	27,540
4	120	14,940	4	100	7,380
5	115	21,600	5	95	68,760
6	110	97,380	6	90	171,720
7	105	57,240	7	85	317,160
8	100	161,640	8	80	286,200
9	95	75,060	9	75	182,340
10	90	336,600	10	70	720,000
11	85	115,380	11	65	3,361,680
12	80	6,798,600	12	60	3,804,120

TABLE 197 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 650°F/5,000 hr/40 ksi
Test Temp: 400°F

Test 425 Stress Ratio = 0.1			Test 426 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles	Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	3,960	1	100	14,220
2	110	15,840	2	95	43,560
3	100	13,500	3	90	155,520
4	95	69,300	4	80	45,720
5	90	914,400	5	75	33,300
6	85	599,940	6	75	519,660
7	80	55,260	7	70	26,280
8	75	2,970,000	8	65	661,140
9	70	655,920	9	60	759,060
10	65	5,447,340	10	55	2,034,360
			11	50	4,672,080

TABLE 198 CONSTANT AMPLITUDE FATIGUE TEST DATA

Material: INCO 718, 20% CR, Aged at 1275°F
Geometry: Fusion-Welded & Planished
Soak: 650°F/5,000 hr/40 ksi
Test Temp: 650°F

Test 427 Stress Ratio = 0.1		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	120	3,780
2	115	32,580
3	110	21,420
4	100	23,940
5	95	48,960
6	90	1,222,920
7	85	567,360
8	80	429,480
9	75	1,973,880
10	70	4,995,540

Test 428 Stress Ratio = -0.5		
Specimen Number	f_{max} (ksi)	Applied Cycles
1	100	2,340
2	90	11,880
3	90	9,540
4	85	53,820
5	80	9,900
6	75	18,720
7	75	11,160
8	70	355,640
9	65	552,960
10	60	1,304,100
11	55	8,000,000*

* No failure

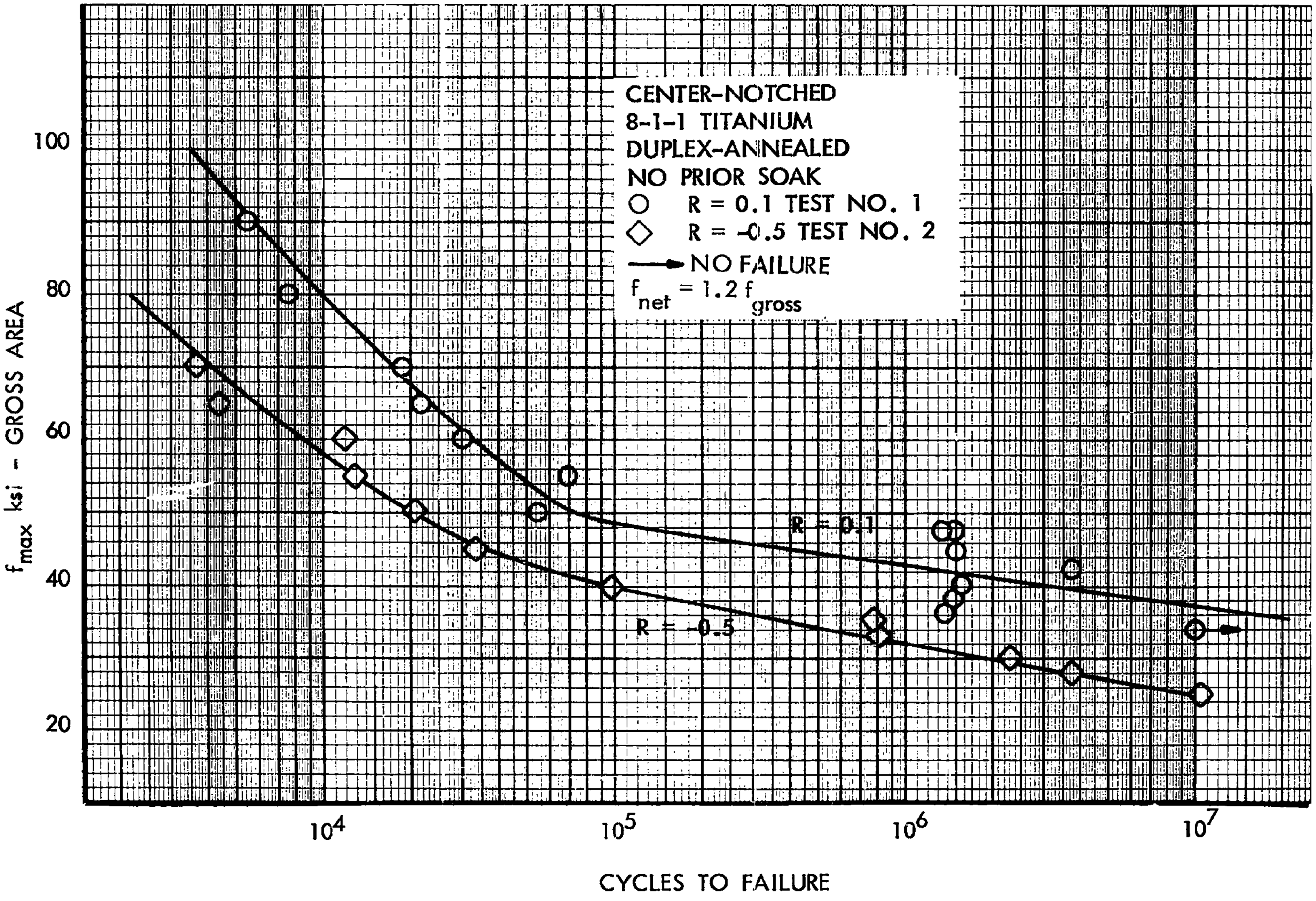


Figure 43. S-N Curves at Room Temperature, Center-Notched 8-1-1 Titanium, R = Constant

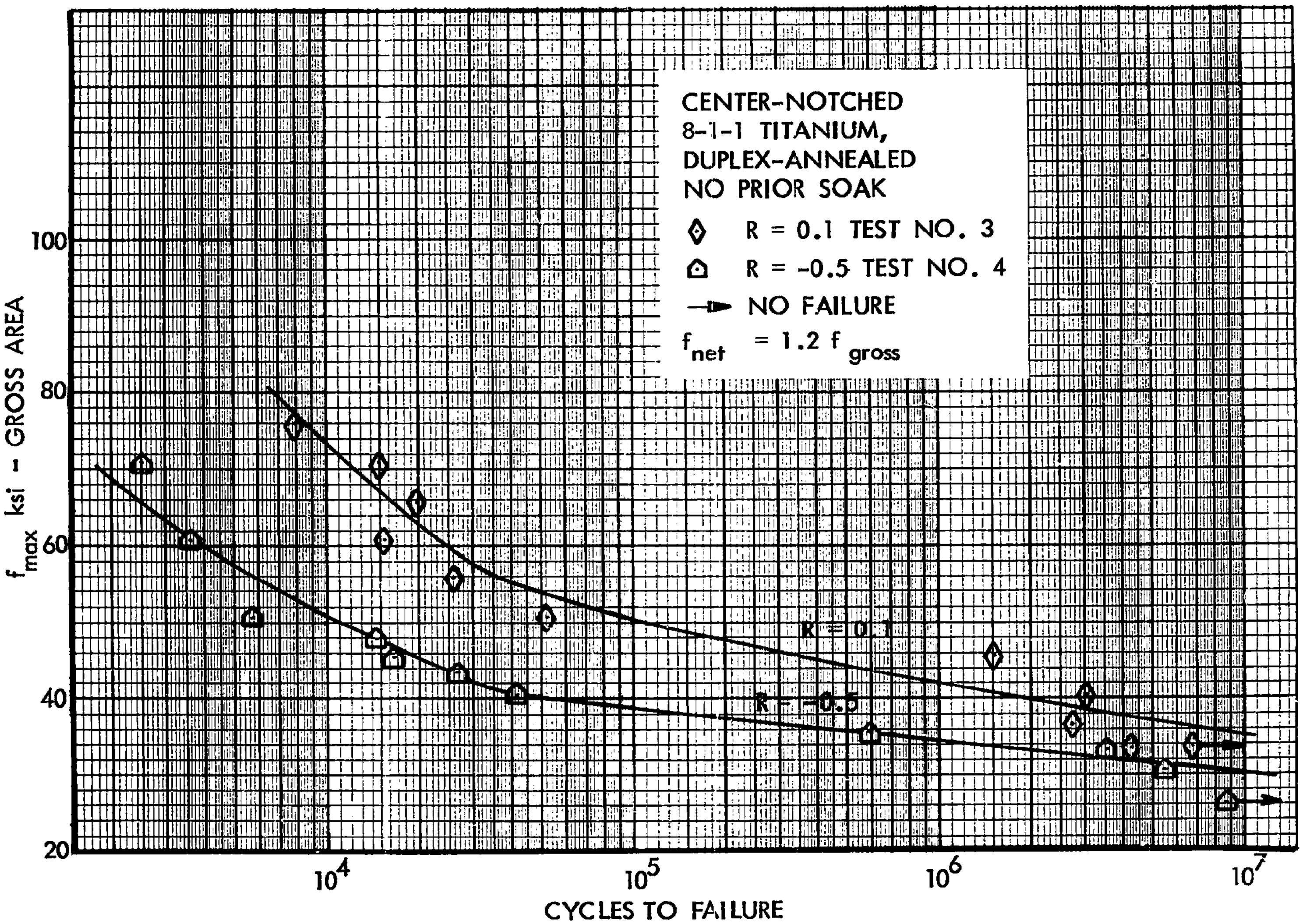


Figure 44. S-N Curves at 400°F, Center-Notched 8-1-1 Titanium, R = Constant

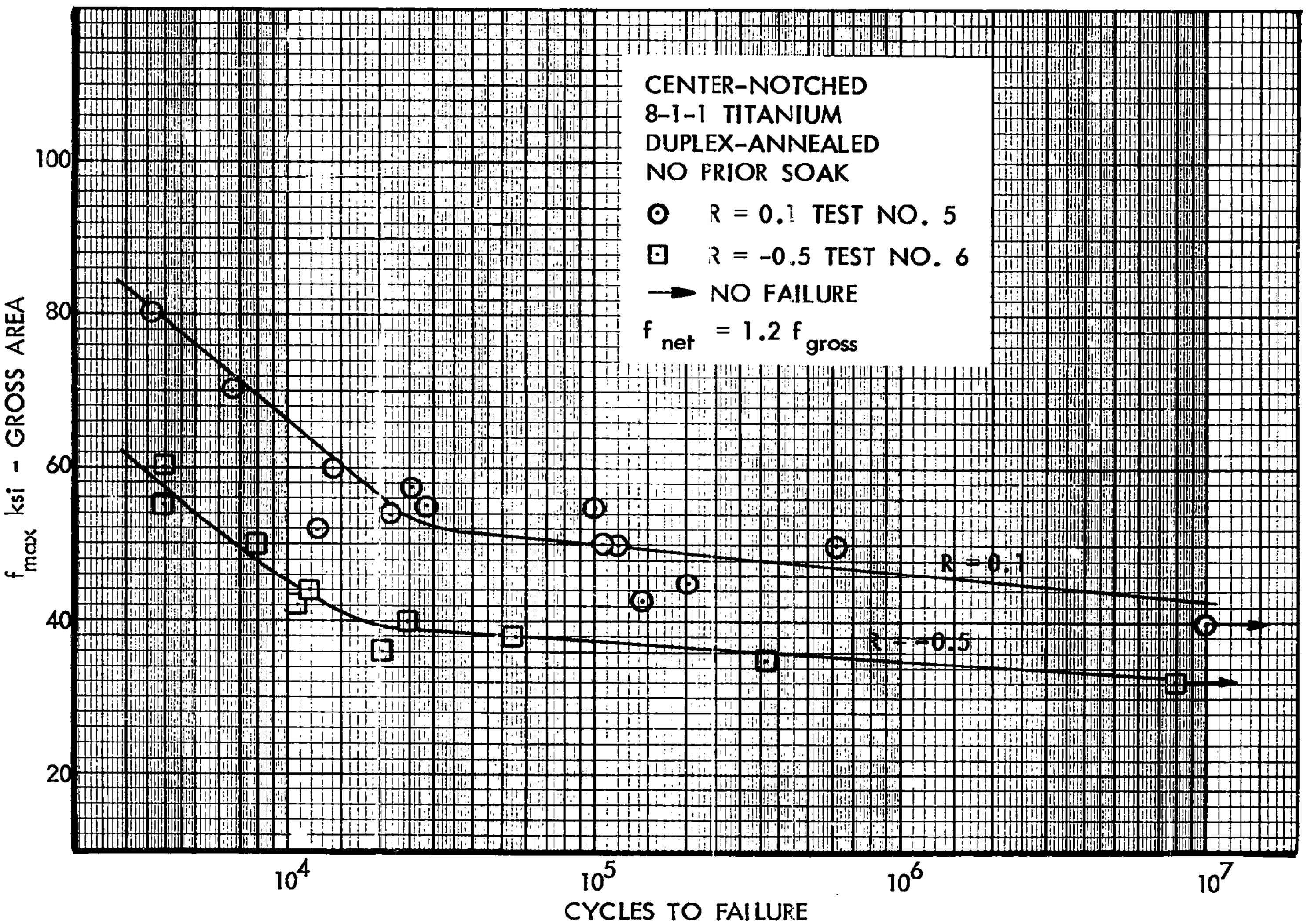


Figure 45. S-N Curves at 650°F, Center-Notched 8-1-1 Titanium, R = Constant

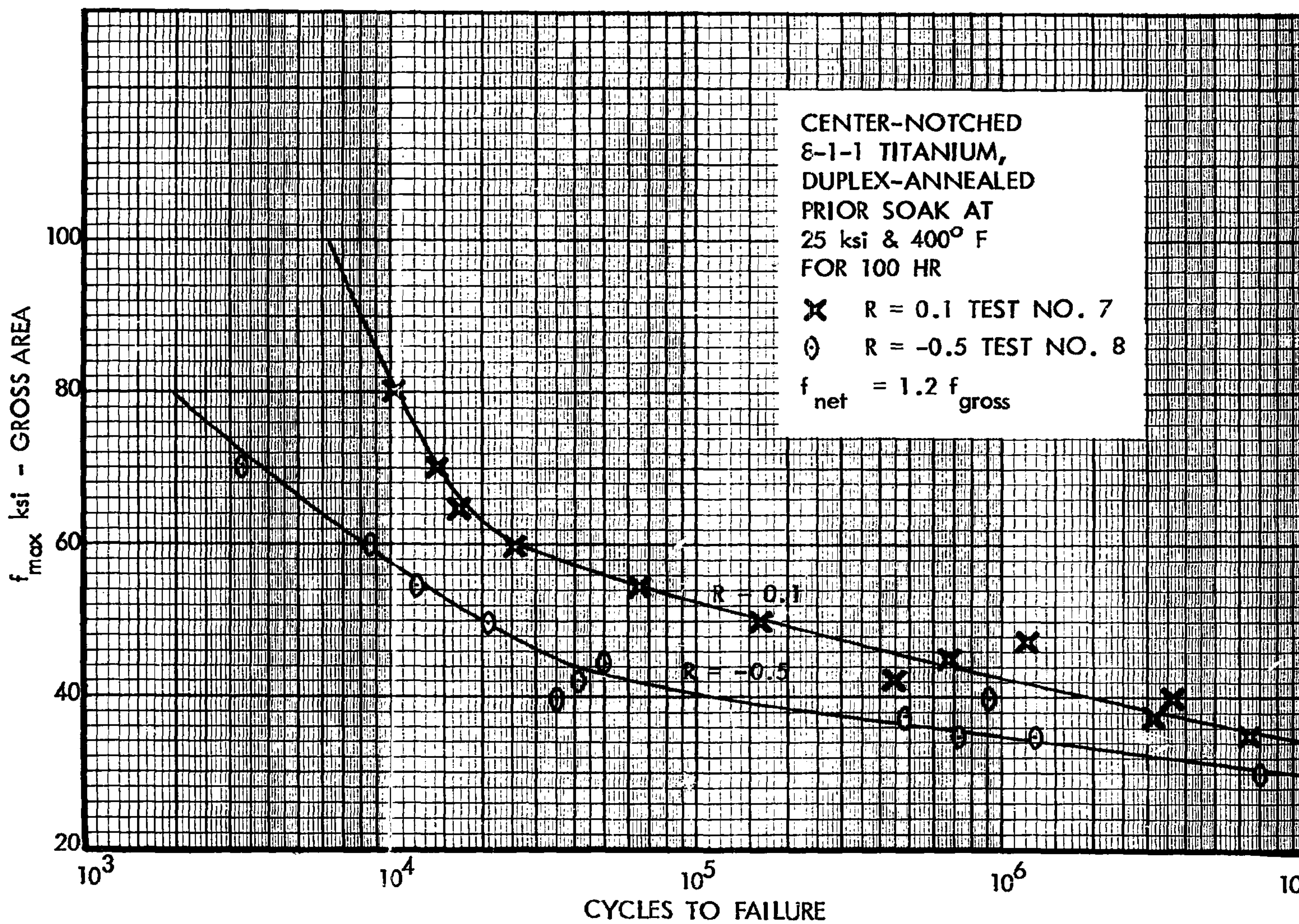


Figure 46. S-N Curves at Room Temperature, Center-Notched 8-1-1 Titanium, R = Constant

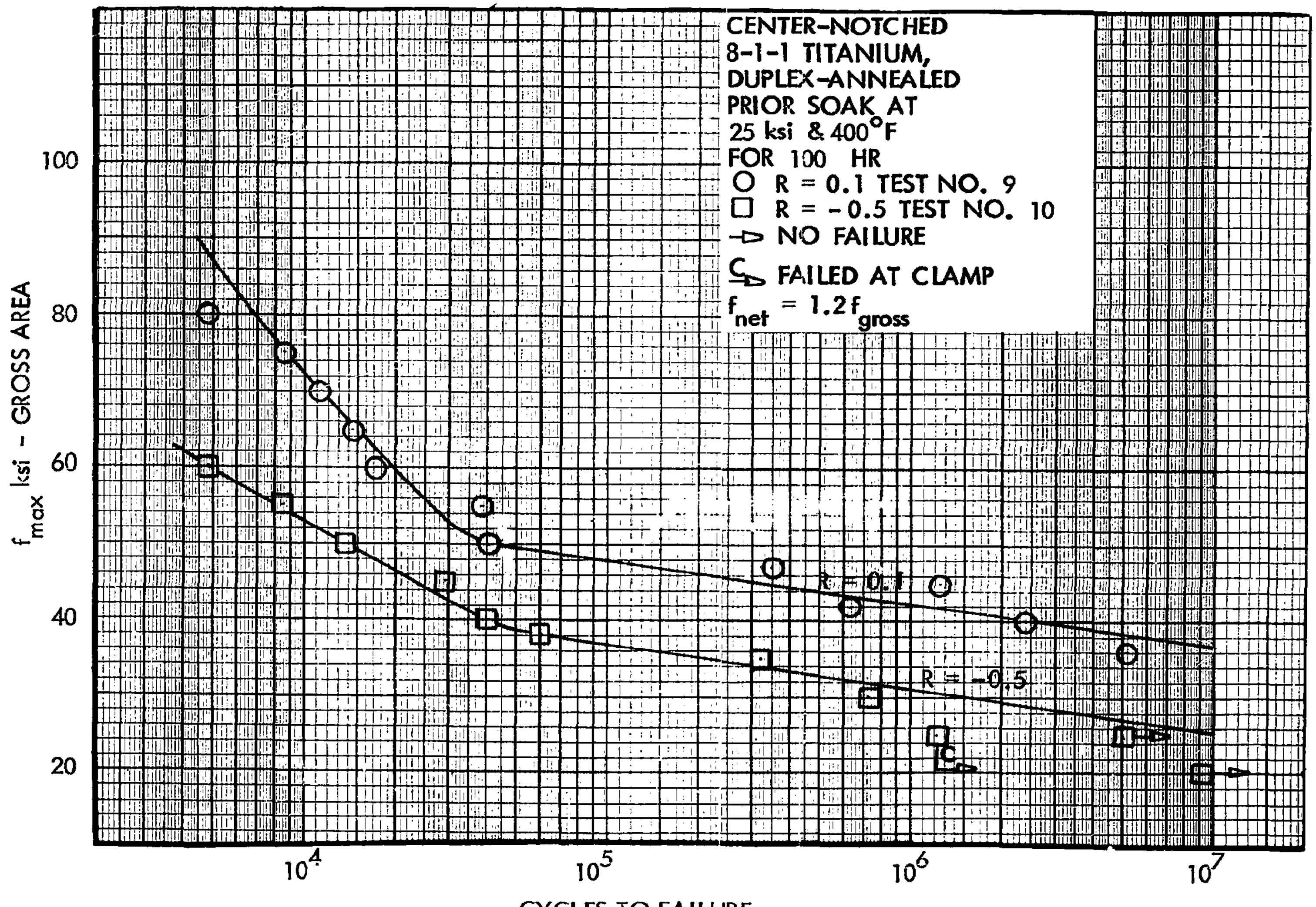


Figure 47. S-N Curves at 400°F, Center-Notched 8-1-1 Titanium, R = Constant

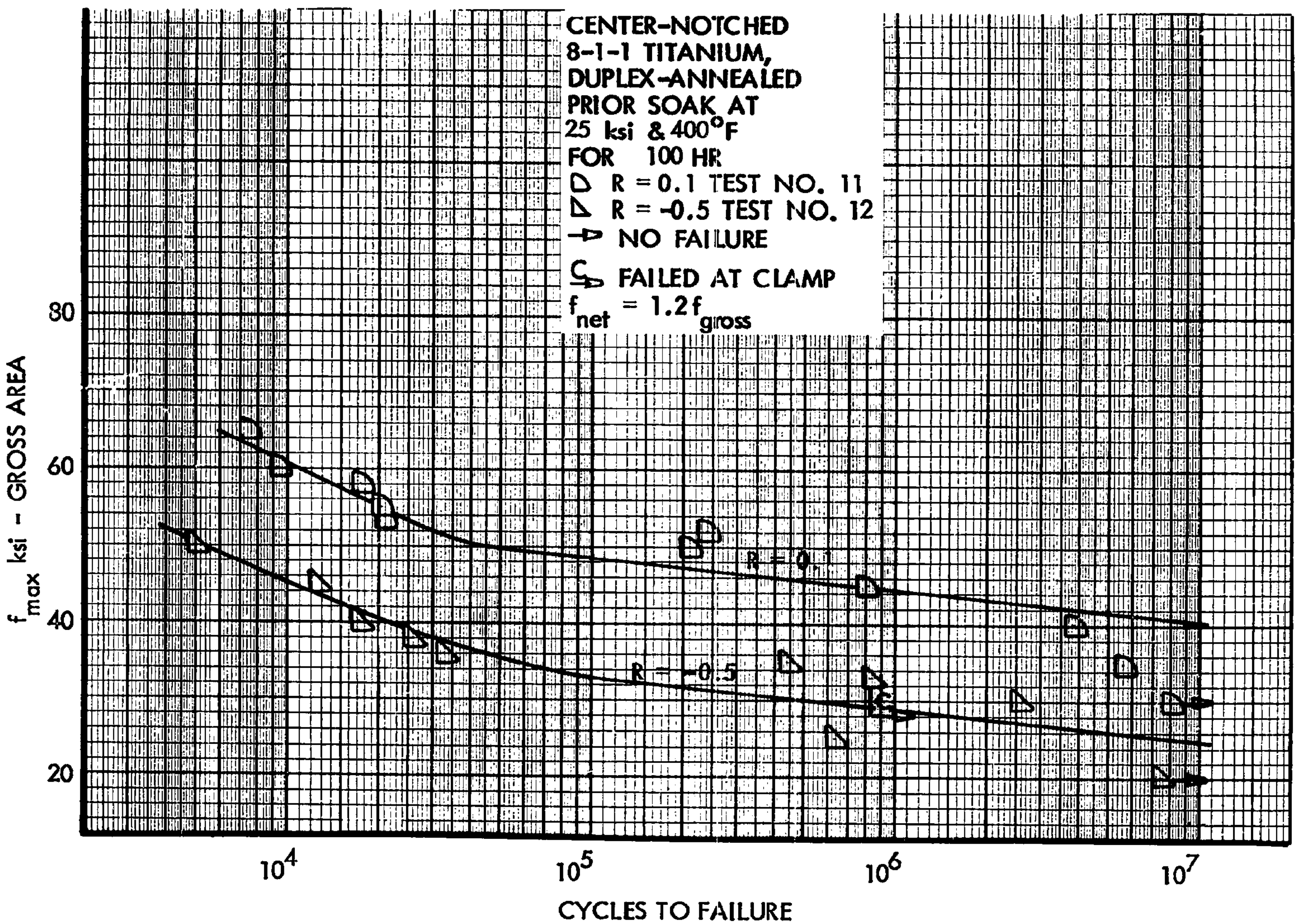


Figure 48 S-N Curves at 650°F, Center-Notched 8-1-1 Titanium, R = Constant

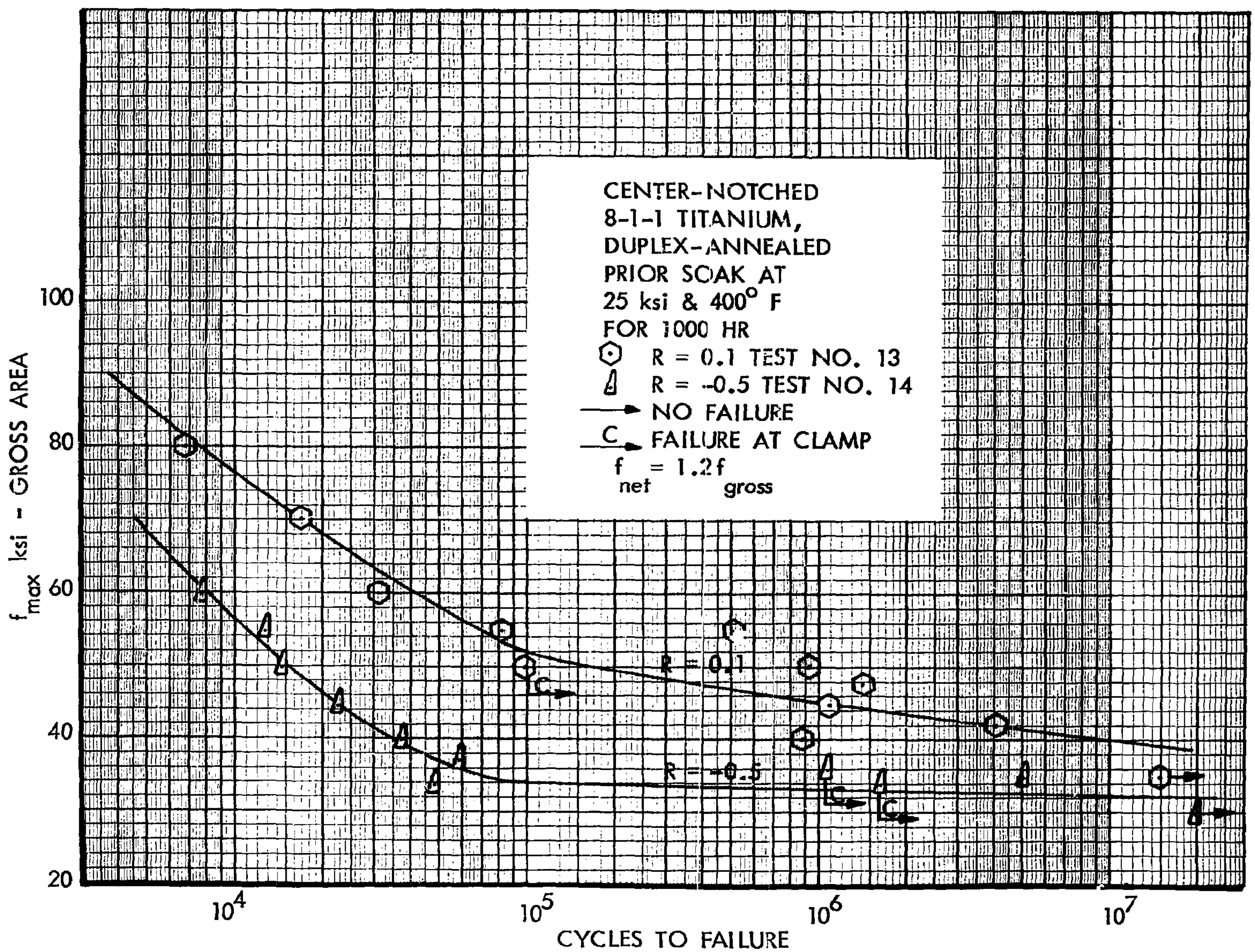


Figure 49. S-N Curves at Room Temperature, Center-Notched 8-1-1 Titanium, R = Constant

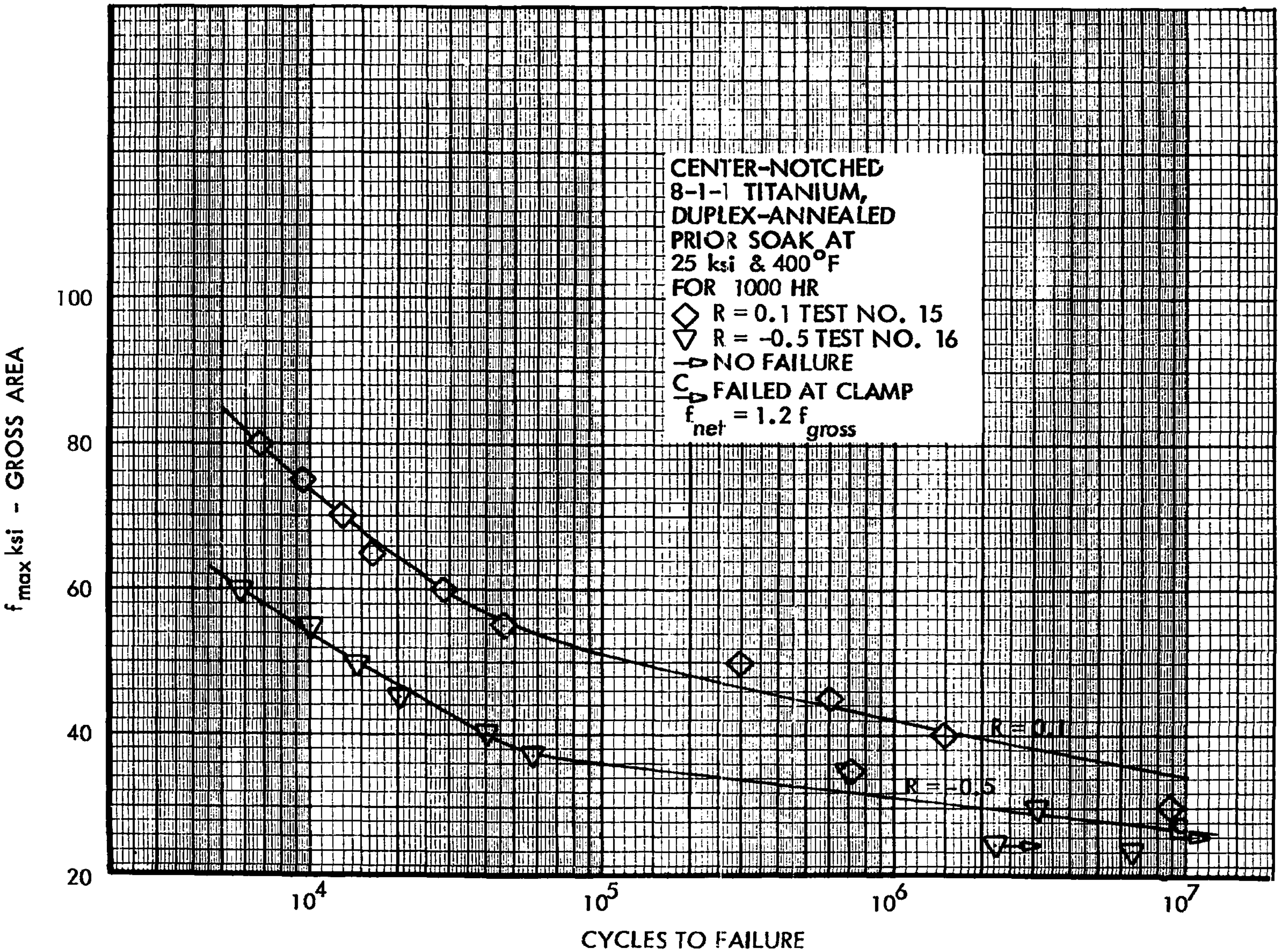


Figure 50. S-N Curves at 400°F, Center-Notched 8-1-1 Titanium, R = Constant

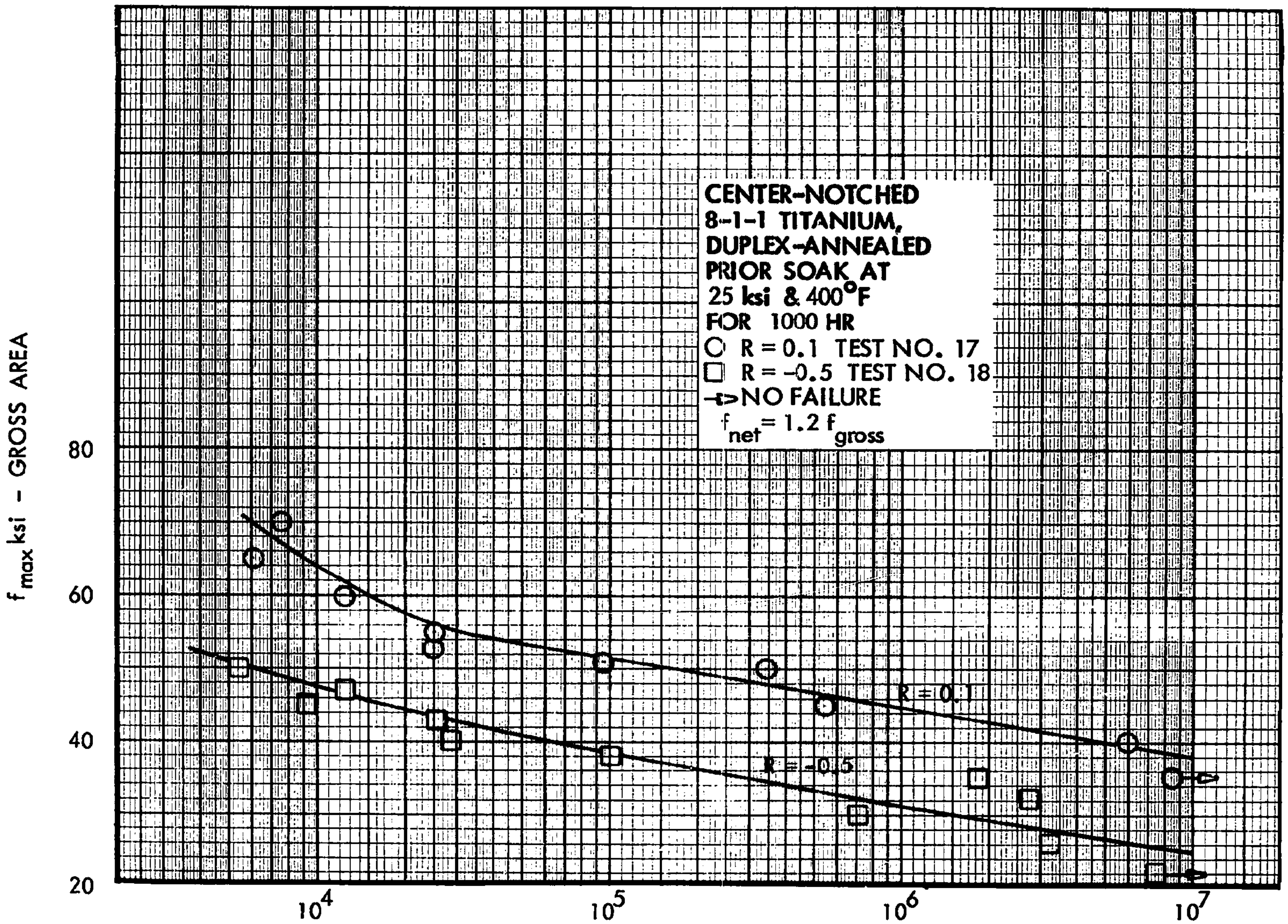


Figure 51. S-N Curves at 650°F, Center-Notched 8-1-1 Titanium, R = Constant

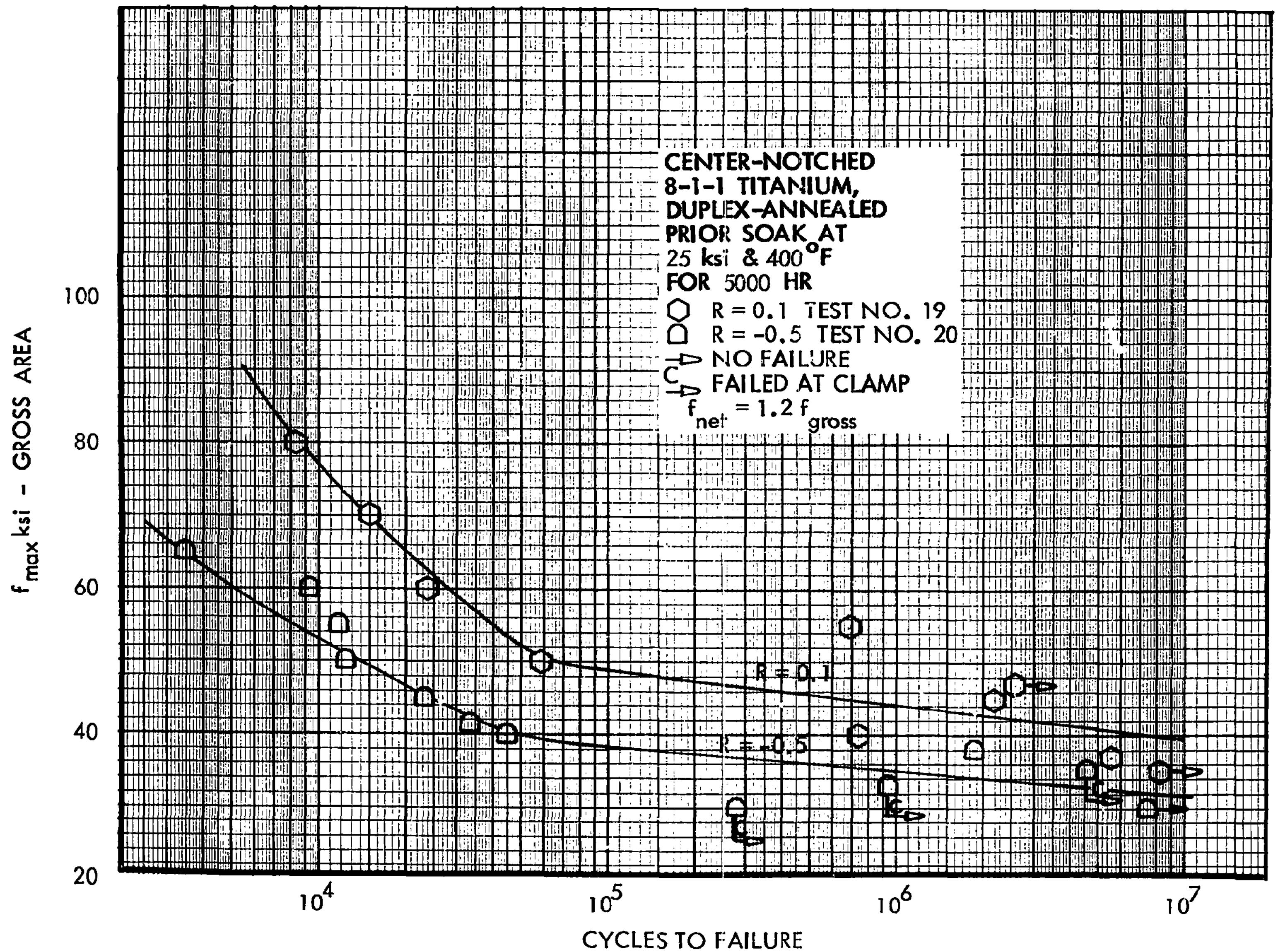


Figure 52. S-N Curves at Room Temperature, Center-Notched 8-1-1 Titanium, R = Constant

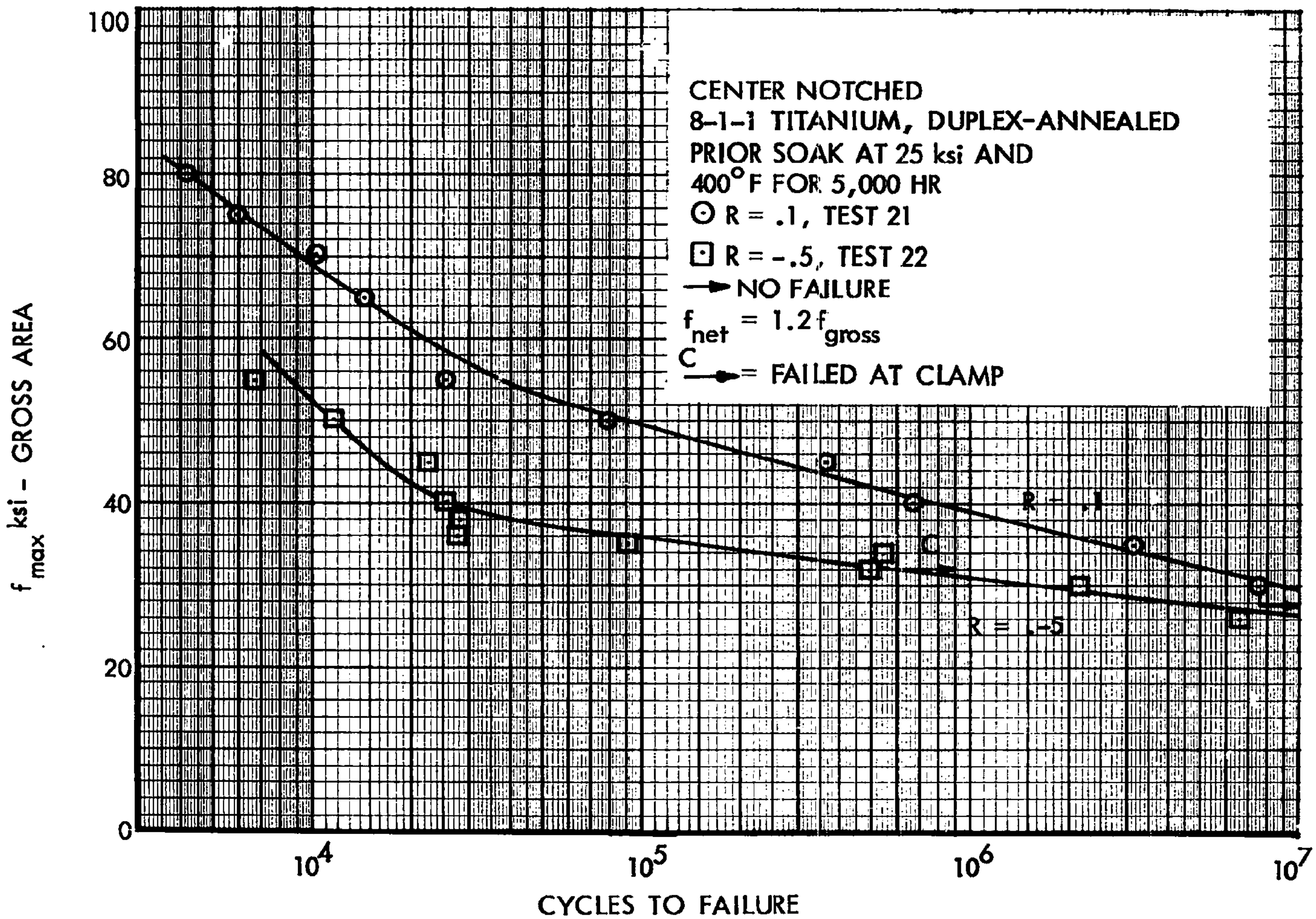


Figure 53 . S-N Curves at 400°F, Center-Notched 8-1-1 Titanium, R = Constant

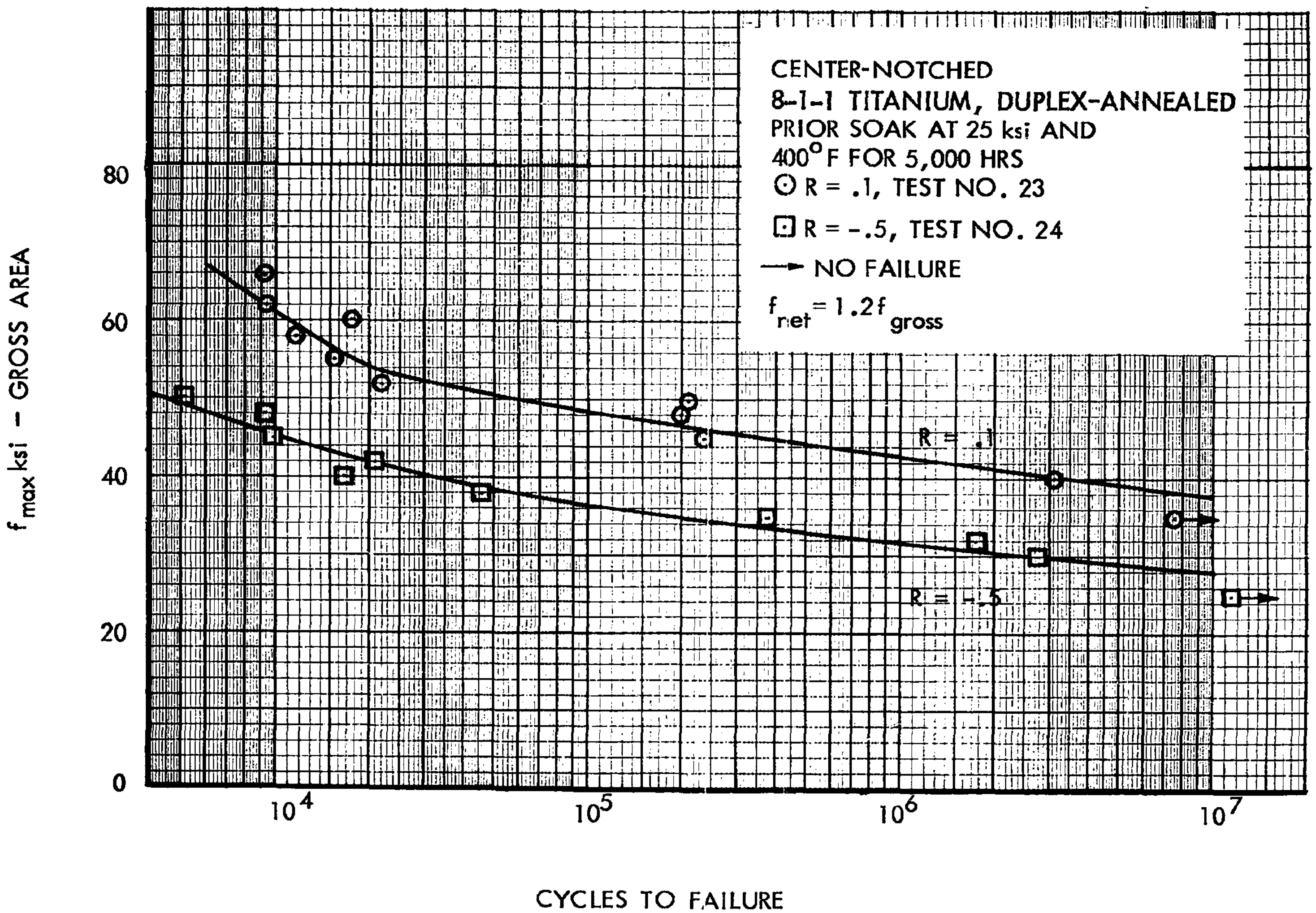


Figure 54. S-N Curves at 650°F, Center-Notched 8-1-1 Titanium, R = Constant

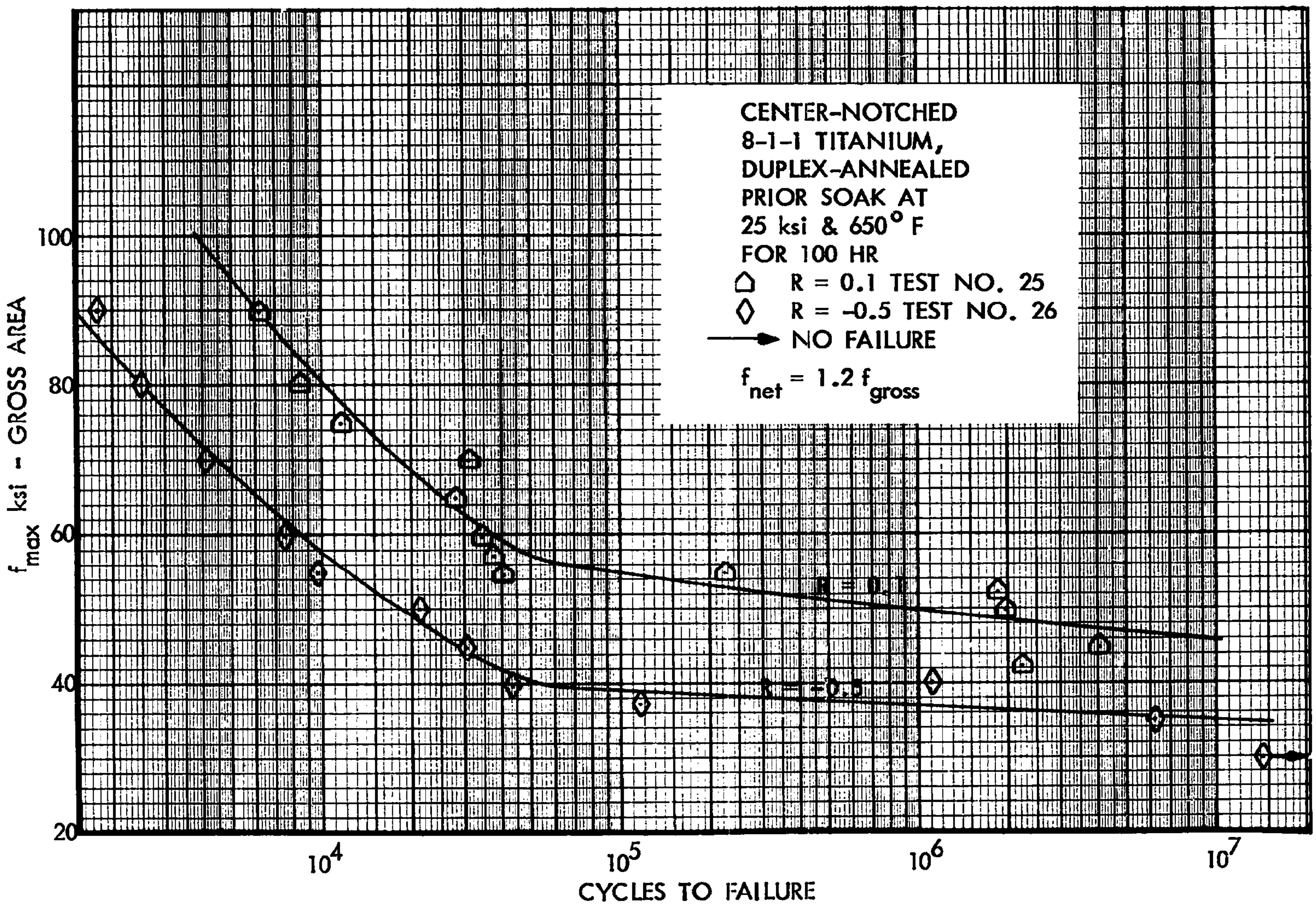


Figure 55. S-N Curves at Room Temperature, Center-Notched 8-1-1 Titanium, R = Constant

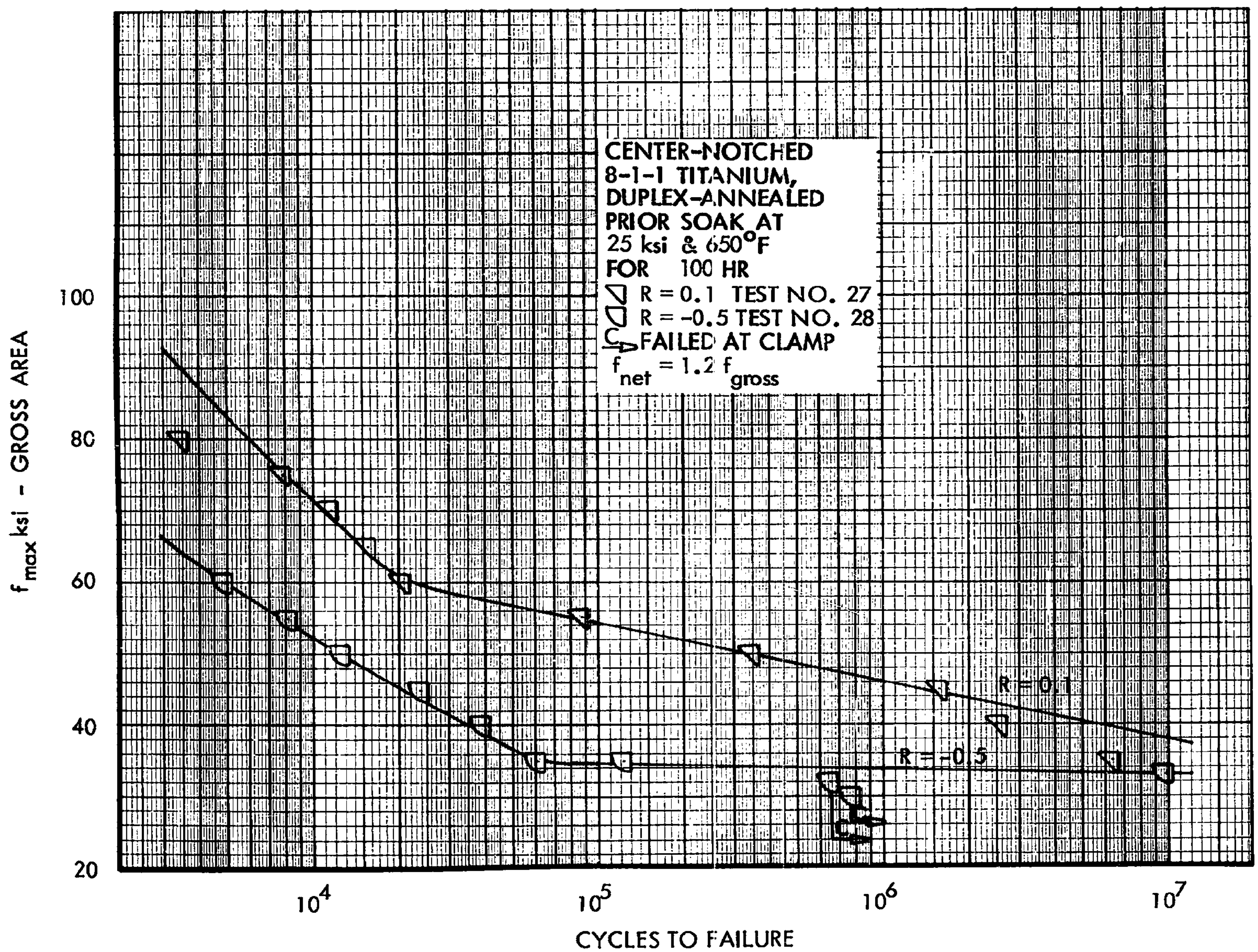


Figure 56. S-N Curves at 400°F, Center-Notched 8-1-1 Titanium, R = Constant

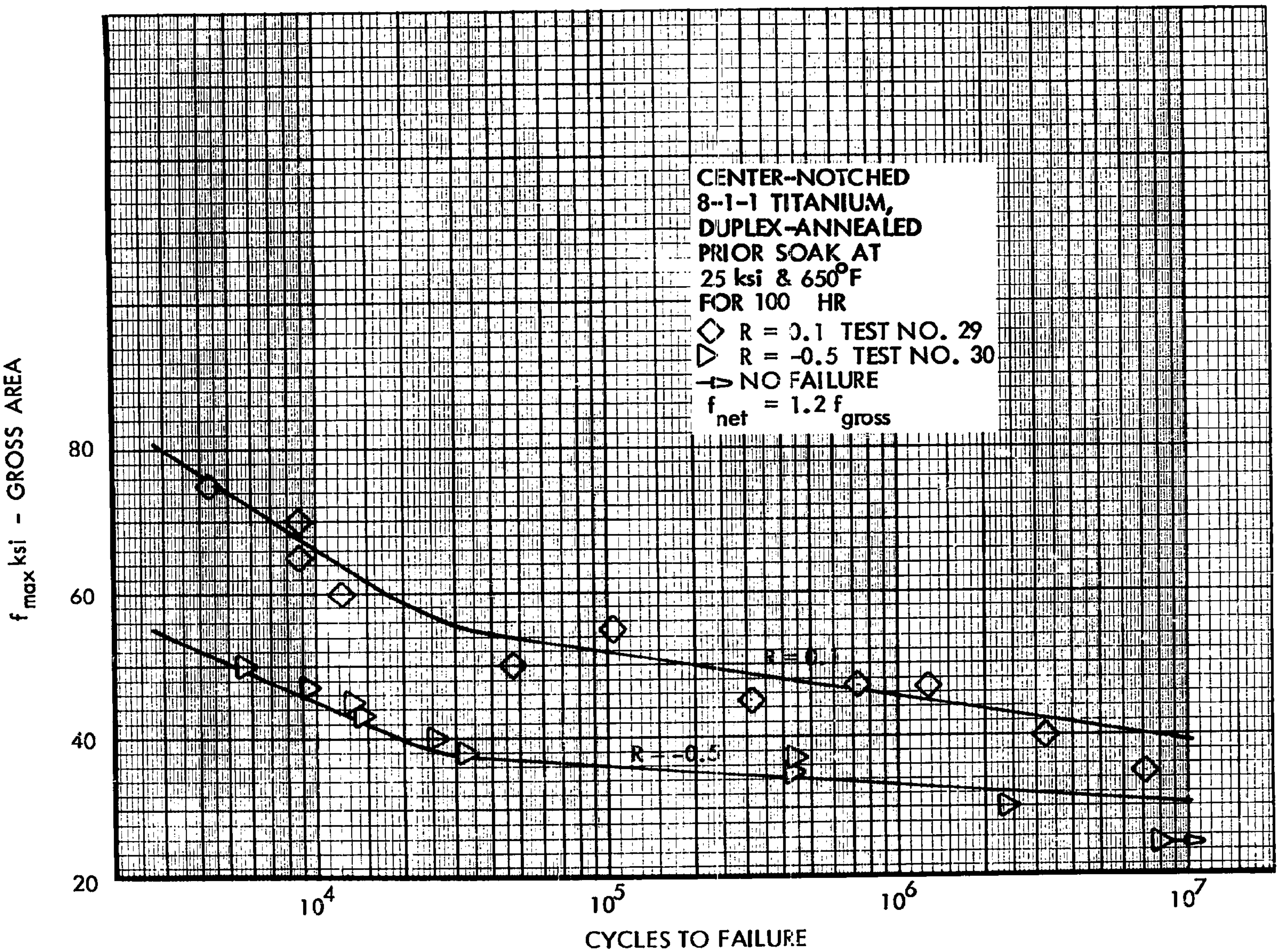


Figure 57. S-N Curves at 650°F, Center-Notched 8-1-1 Titanium, R = Constant

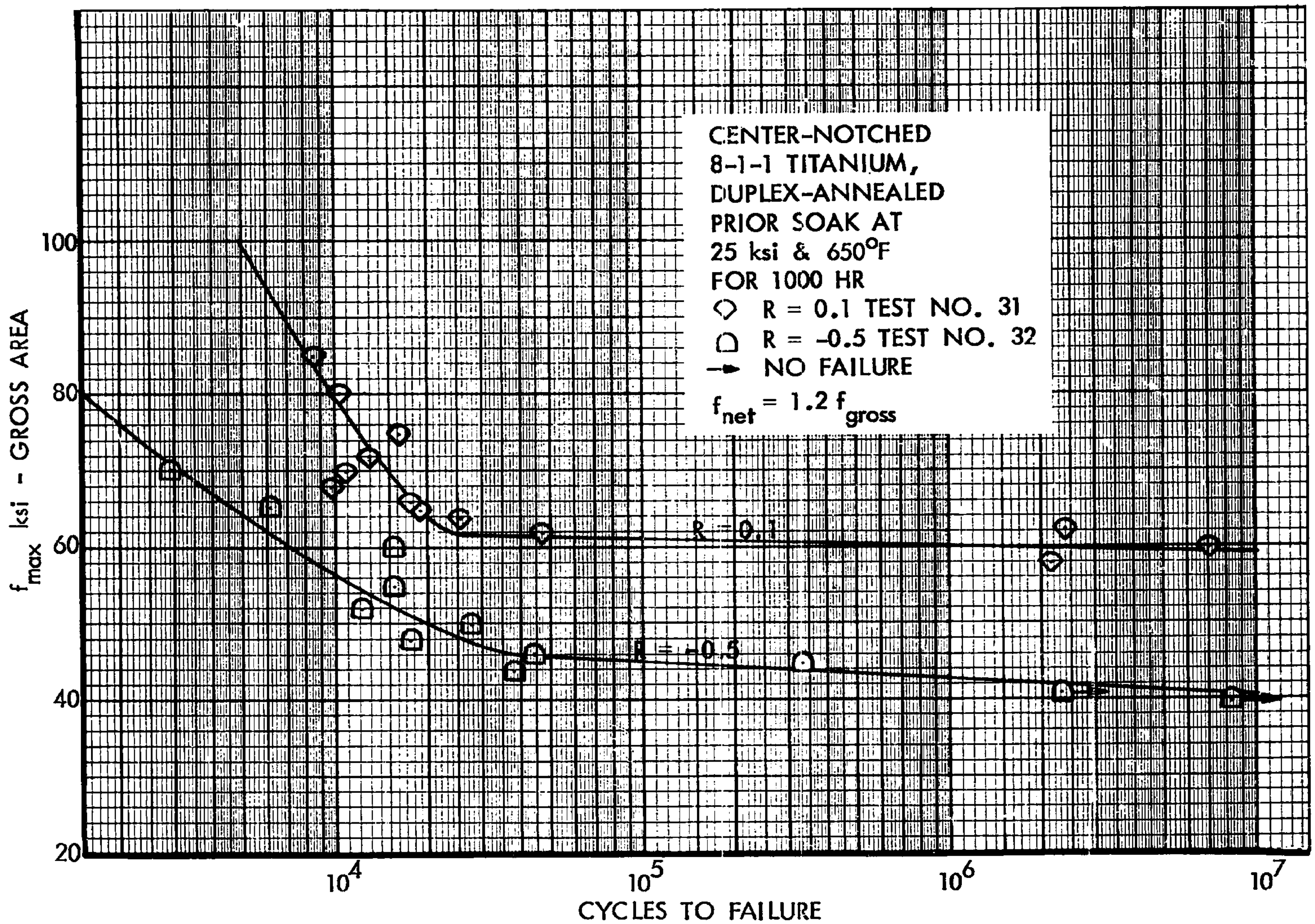


Figure 58. S-N Curves at Room Temperature, Center-Notched 8-1-1 Titanium, R = Constant

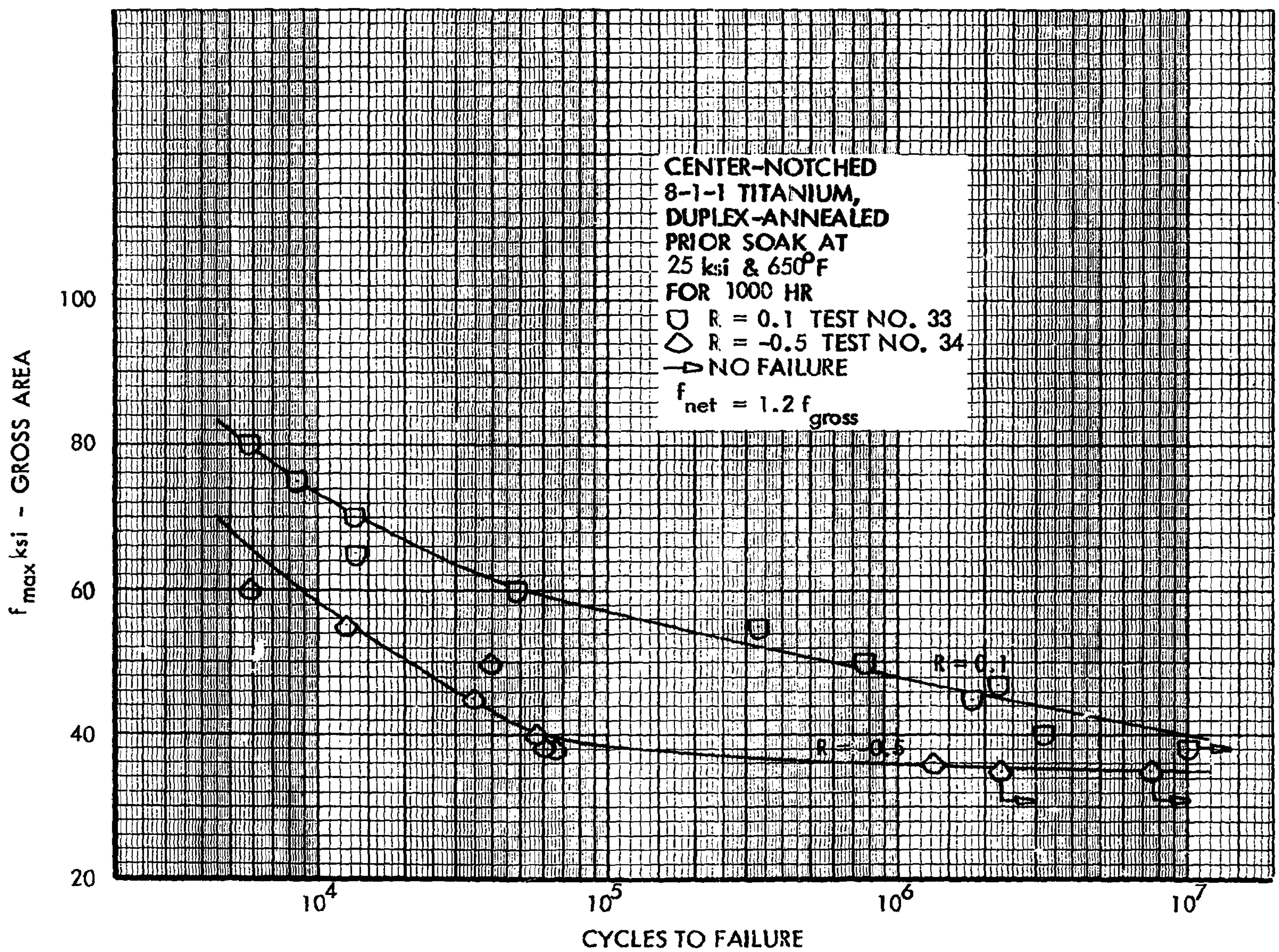


Figure 59 S-N Curves at 400°F, Center-Notched 8-1-1 Titanium, R = Constant

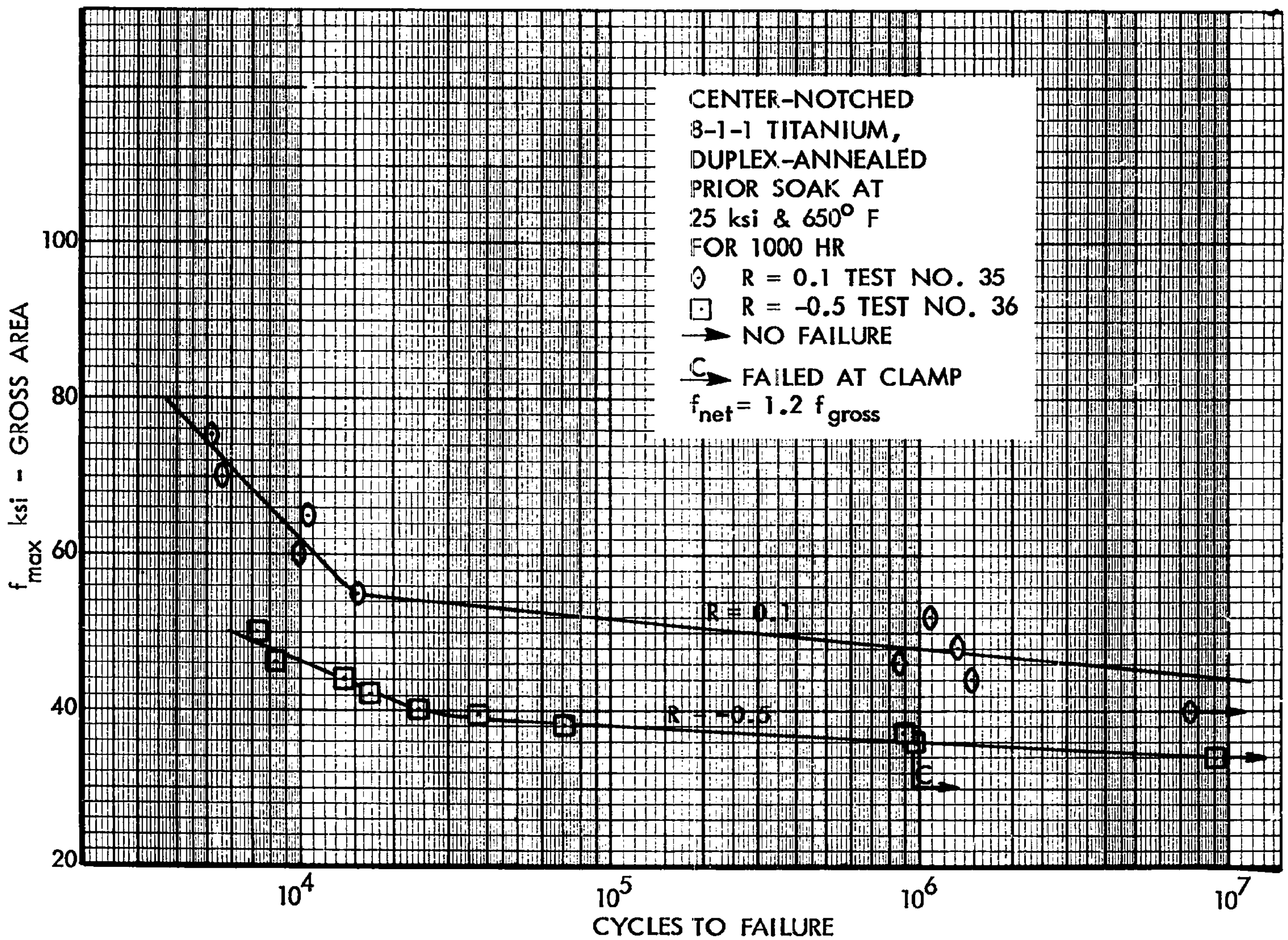


Figure 60. S-N Curves at 650°F, Center-Notched 8-1-1 Titanium, R = Constant

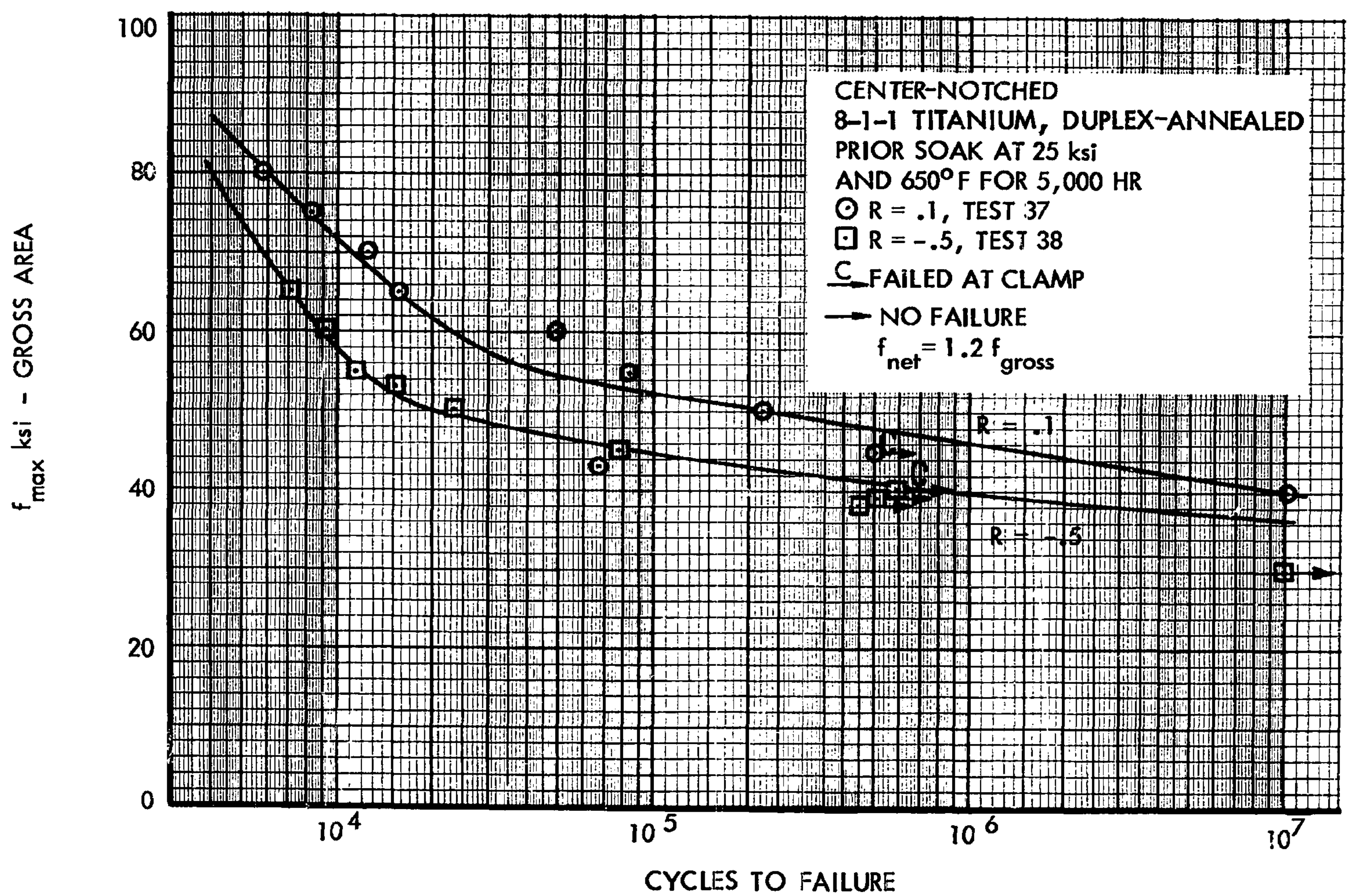


Figure 61. S-N Curves at Room Temperature, Center-Notched 8-1-1 Titanium, R = Constant

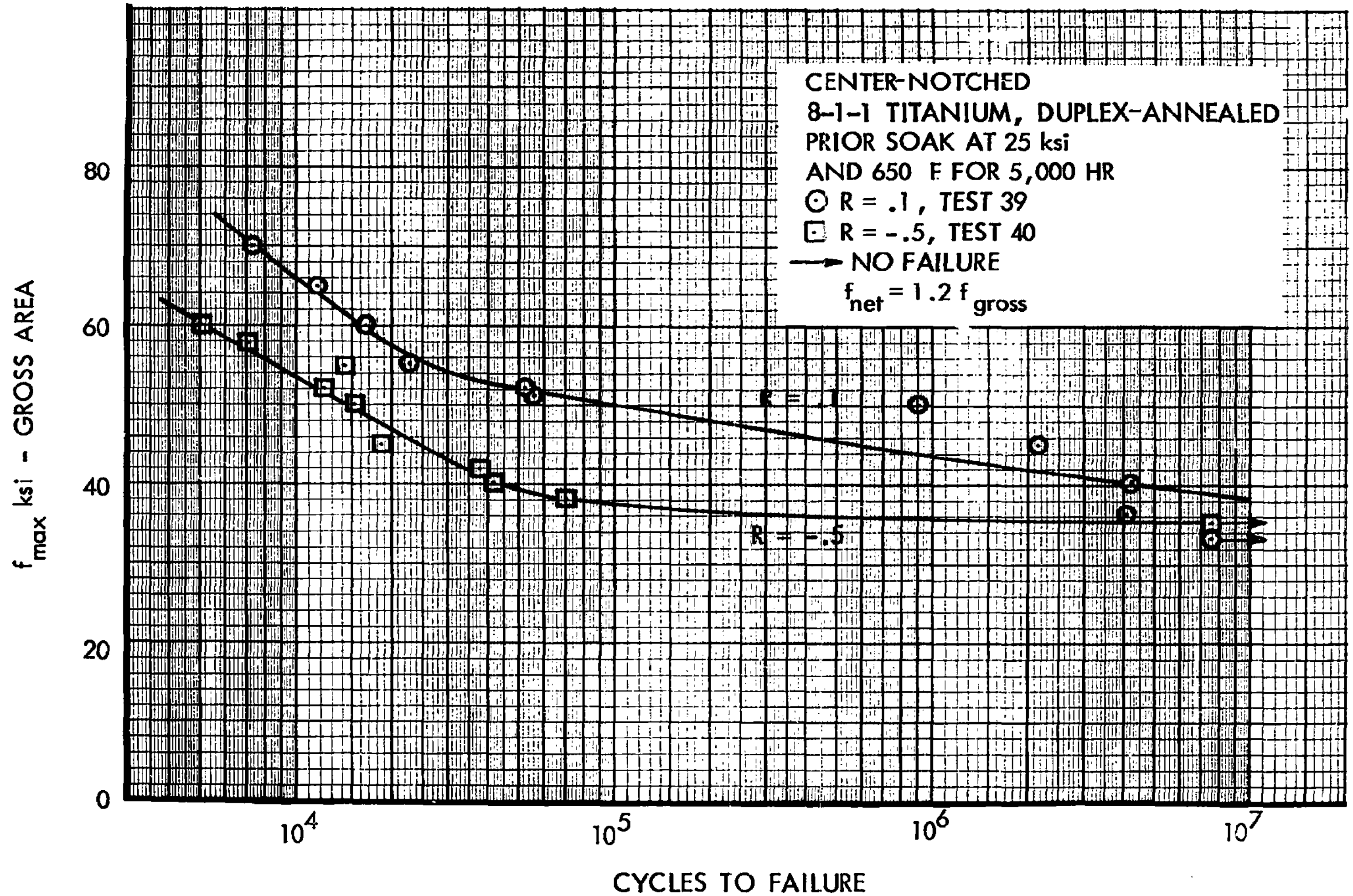


Figure 62. S-N Curves at 400°F, Center-Notched 8-1-1 Titanium, R = Constant

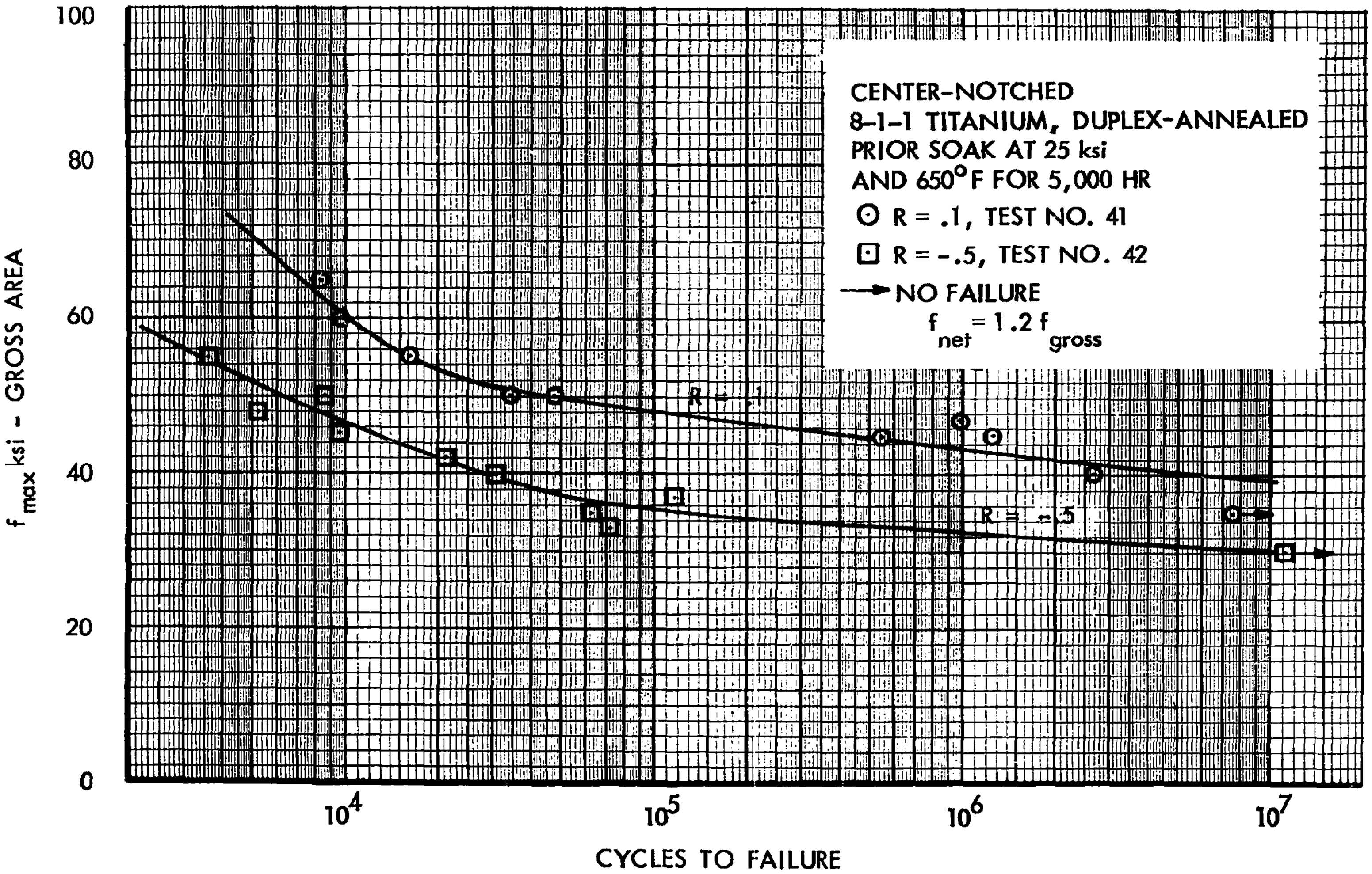


Figure 63. S-N Curves at 650°F, Center-Notched 8-1-1 Titanium, R = Constant

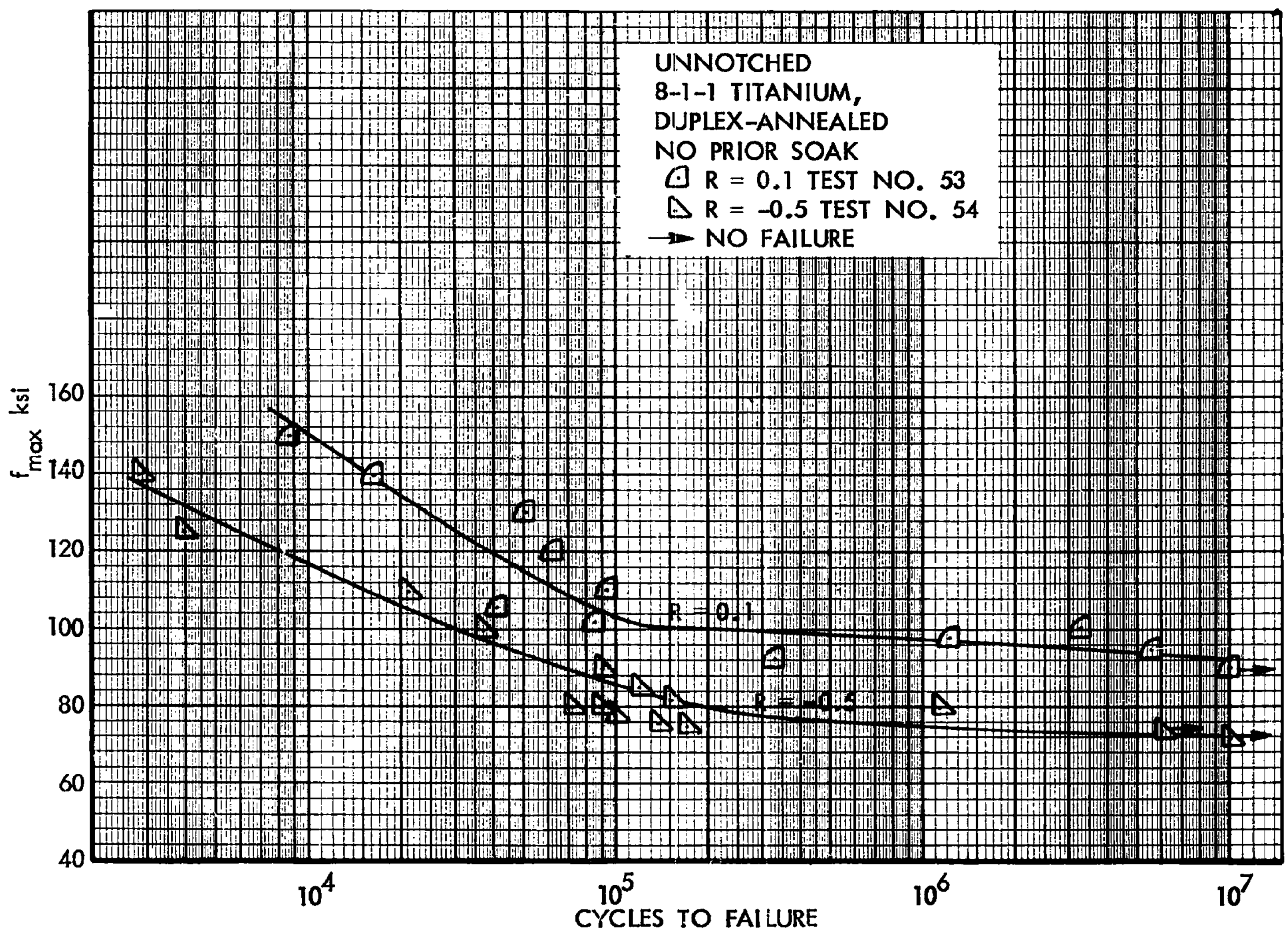


Figure 64. S-N Curves at Room Temperature, Unnotched 8-1-1 Titanium, R = Constant

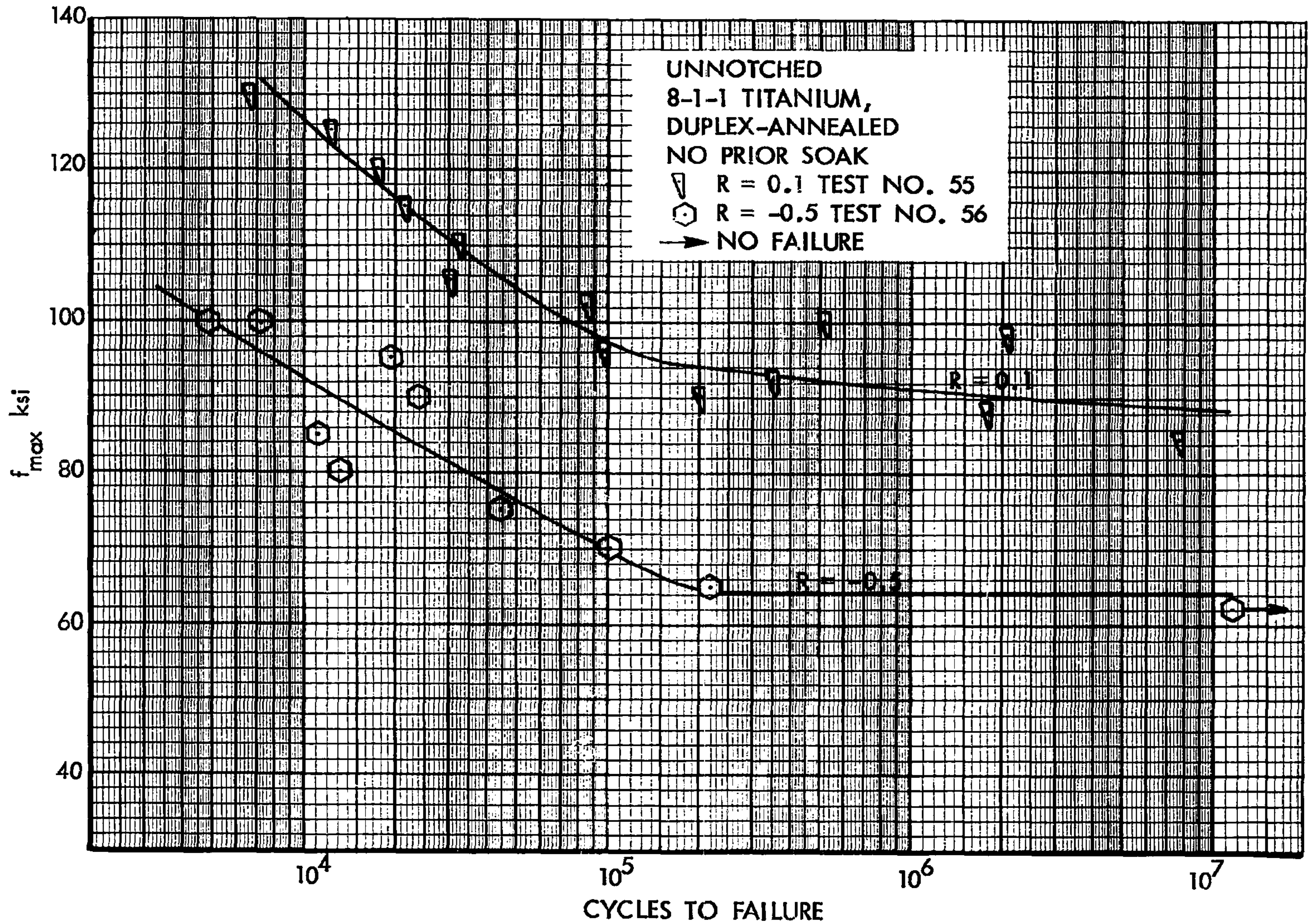


Figure 65. S-N Curves at 400°F, Unnotched 8-1-1 Titanium, R = Constant

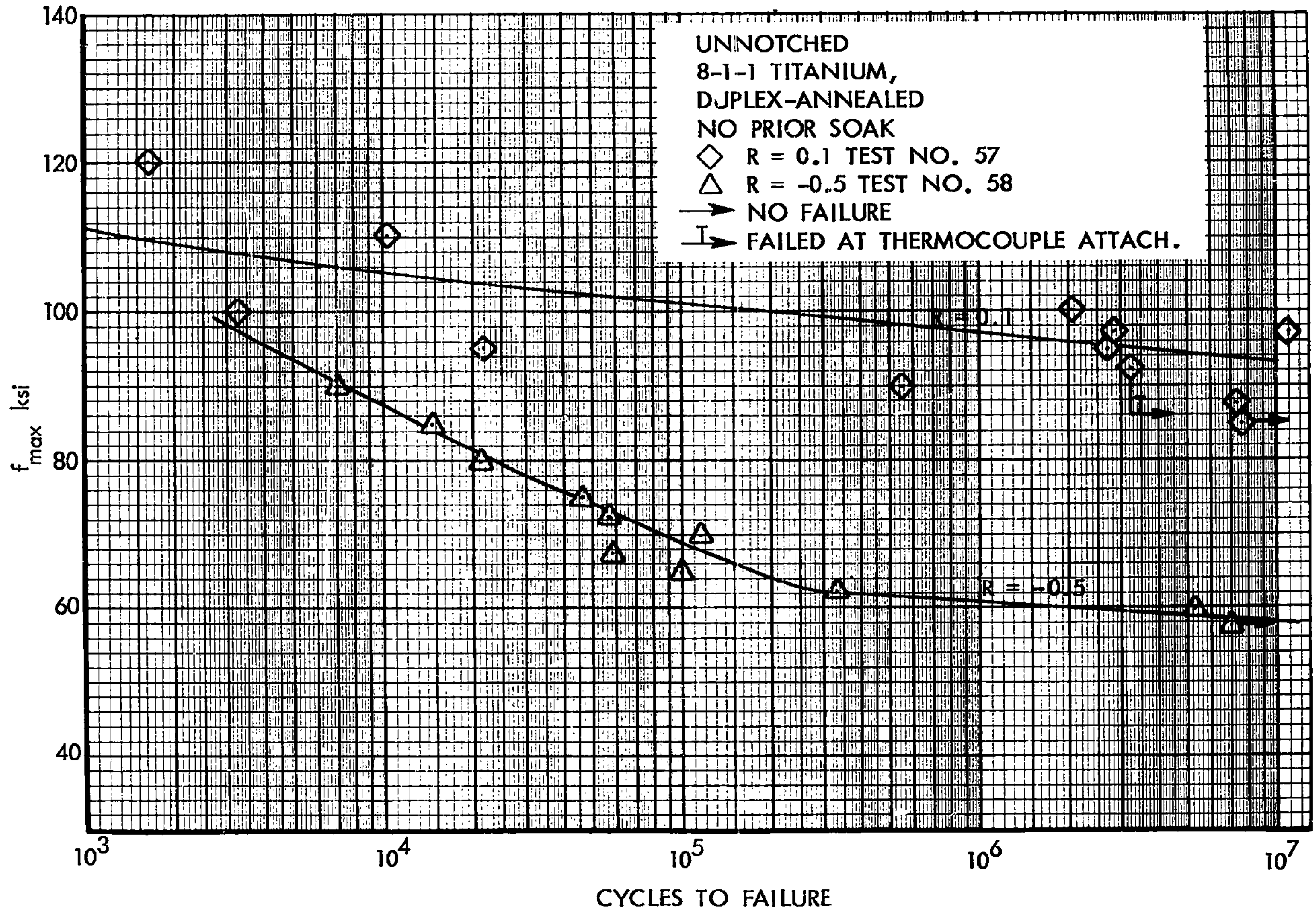


Figure 66. S-N Curves at 650°F, Unnotched 8-1-1 Titanium, R = Constant

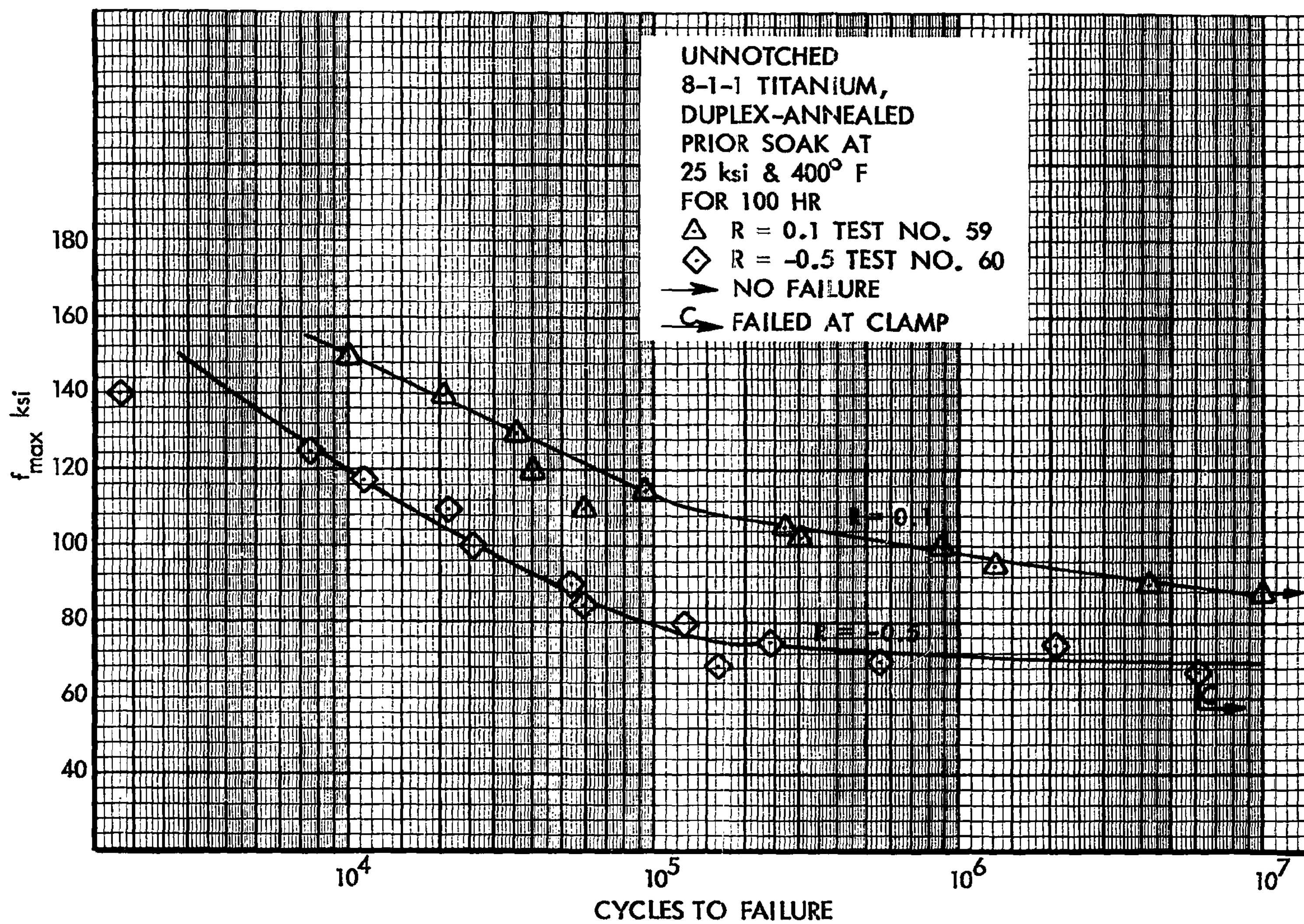


Figure 67. S-N Curves at Room Temperature, Unnotched 8-1-1 Titanium, R = Constant

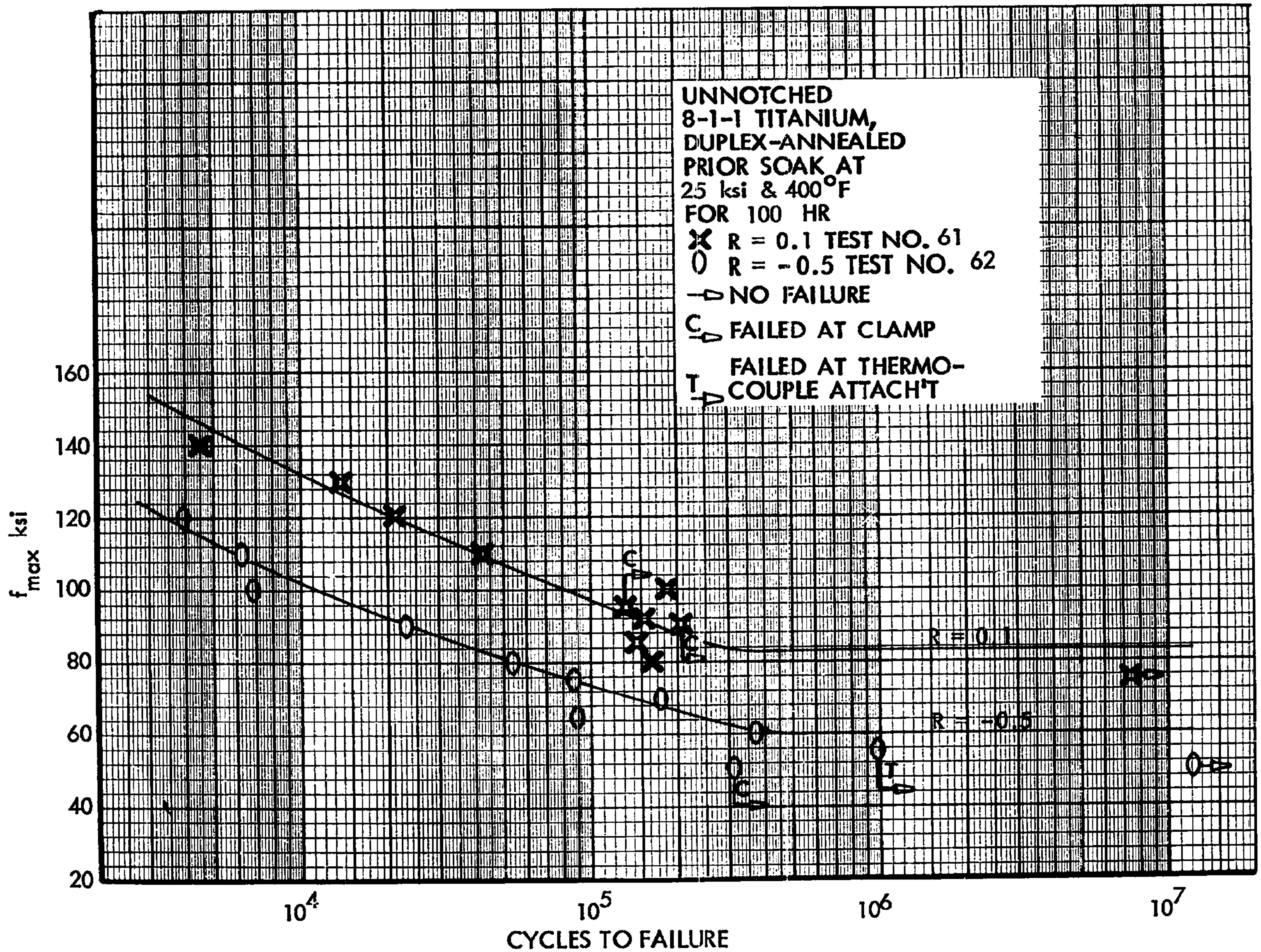


Figure 68. S-N Curves at 400°F, Unnotched 8-1-1 Titanium, R = Constant

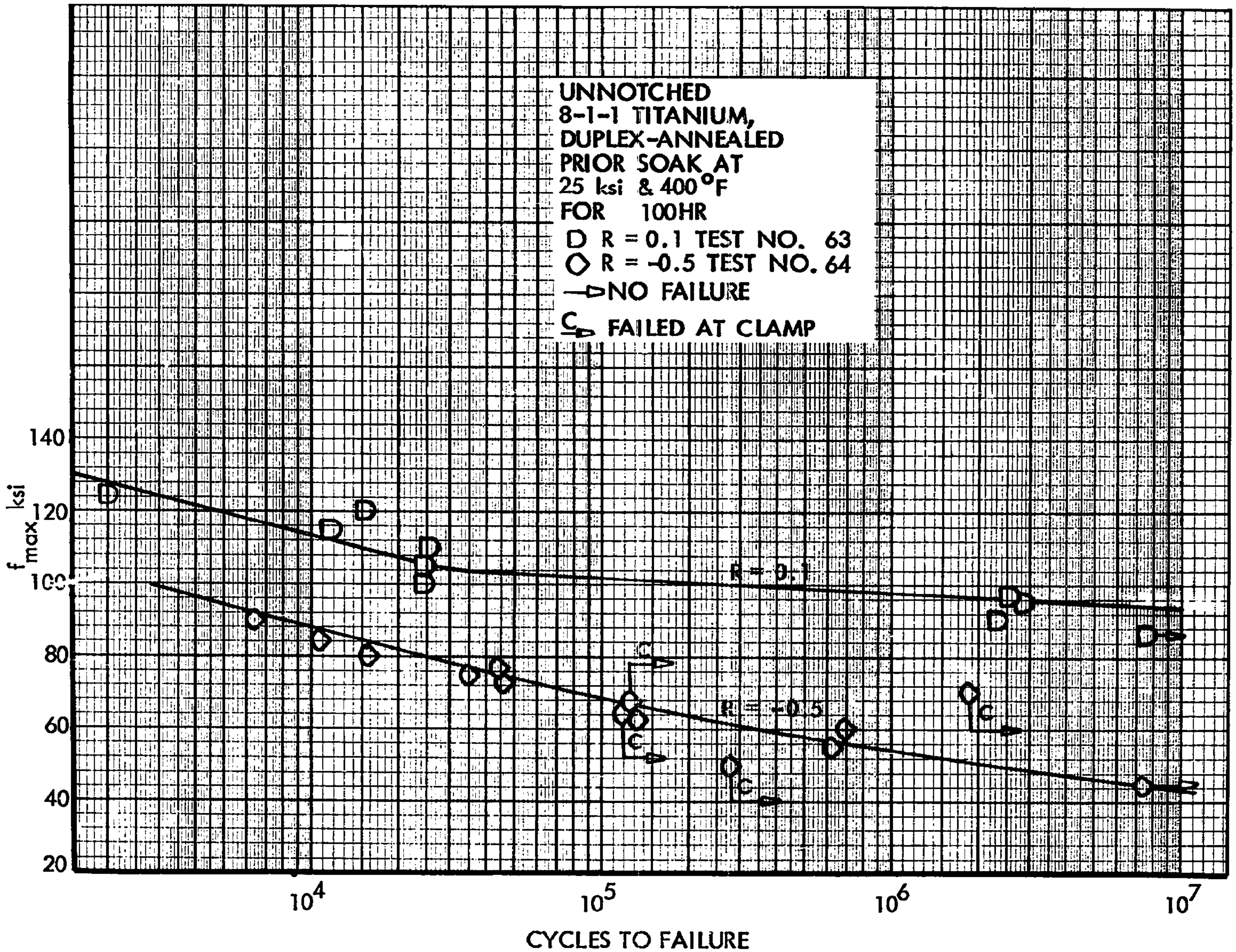


Figure 69. S-N Curves at 650°F, Unnotched 8-1-1 Titanium, R = Constant

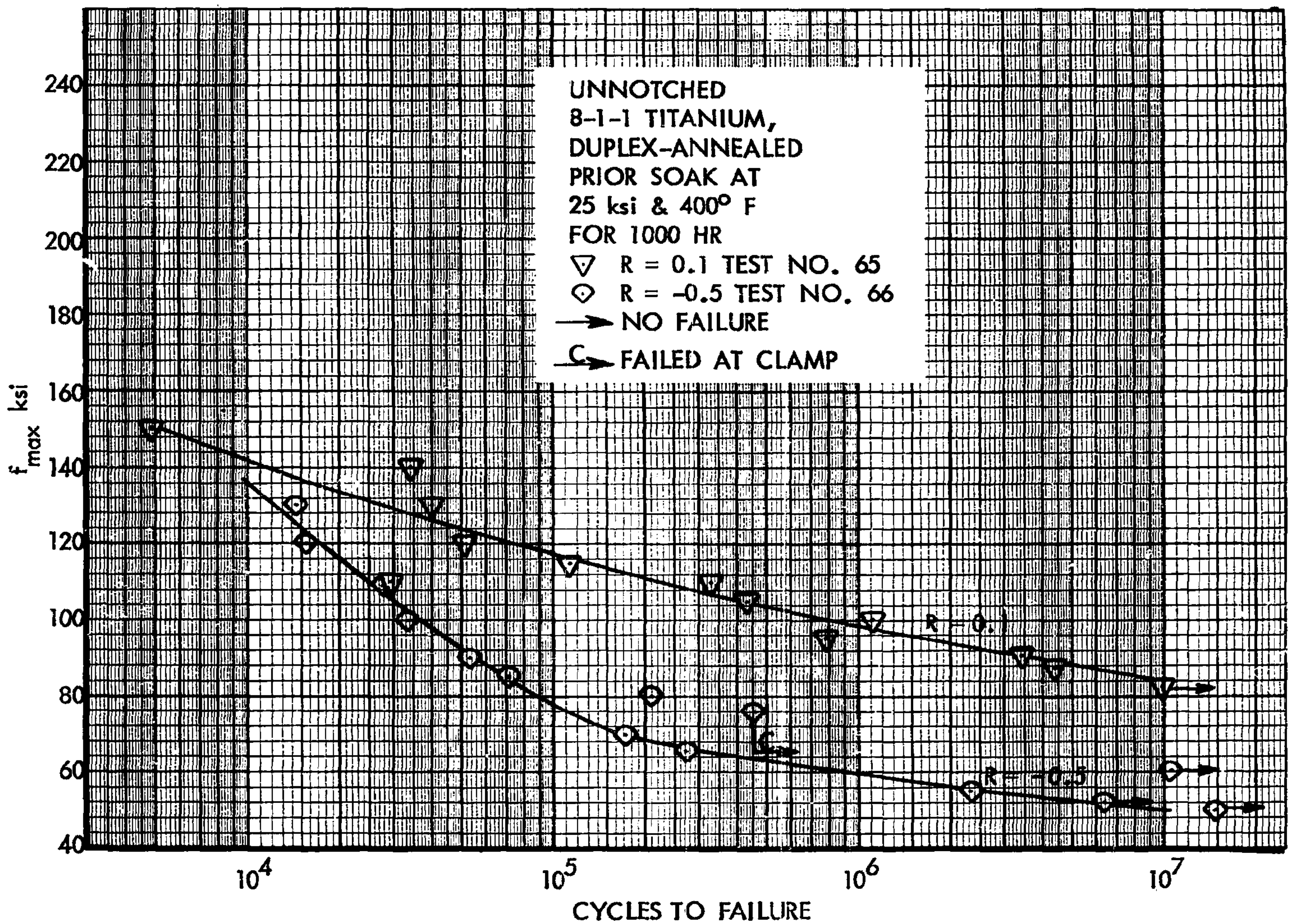


Figure 70. S-N Curves at Room Temperature, Unnotched 8-1-1 Titanium, R = Constant

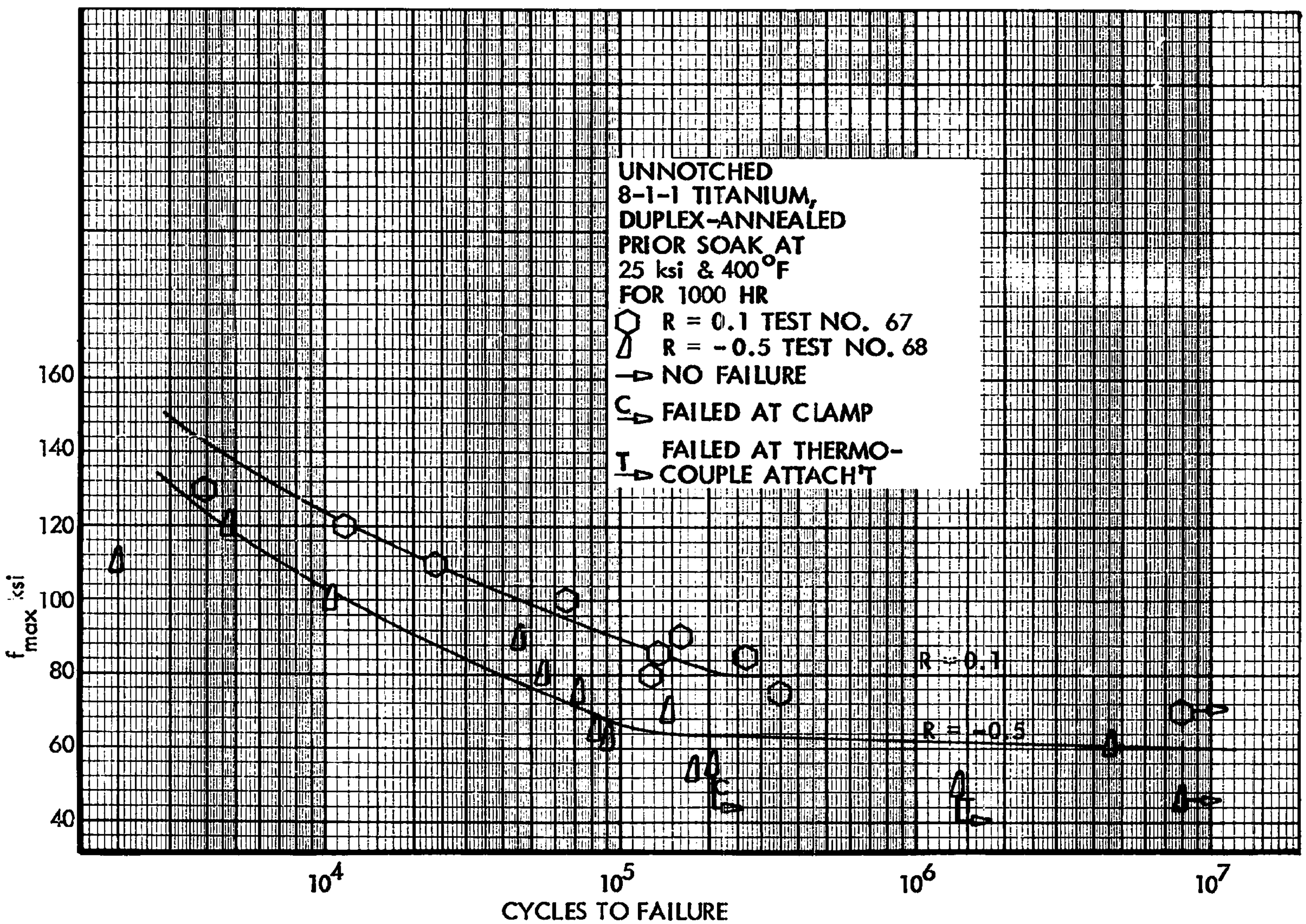


Figure 71. S-N Curves at 400°F, Unnotched 8-1-1 Titanium, R = Constant

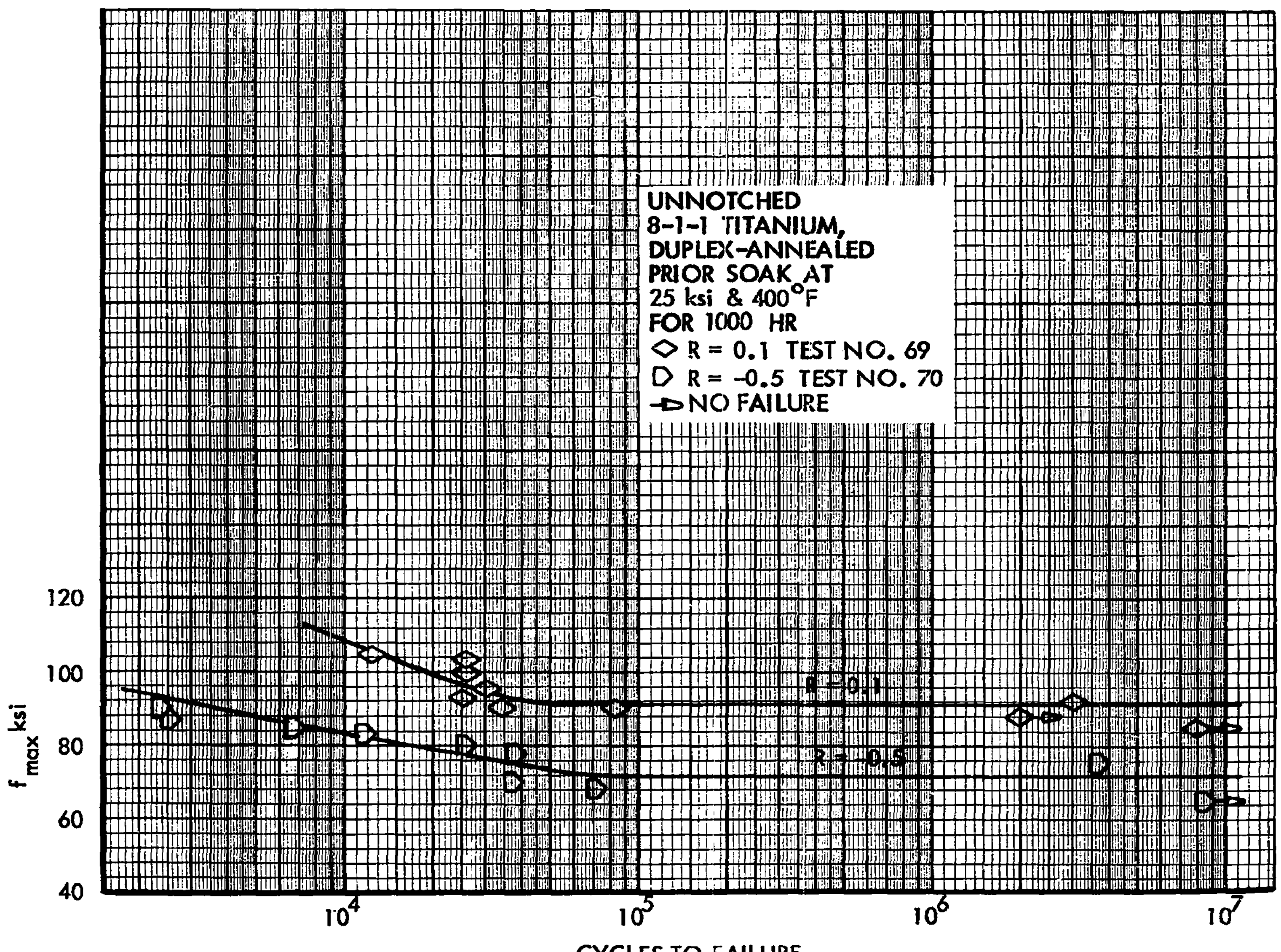


Figure 72. S-N Curves at 650°F, Unnotched 8-1-1 Titanium, R = Constant

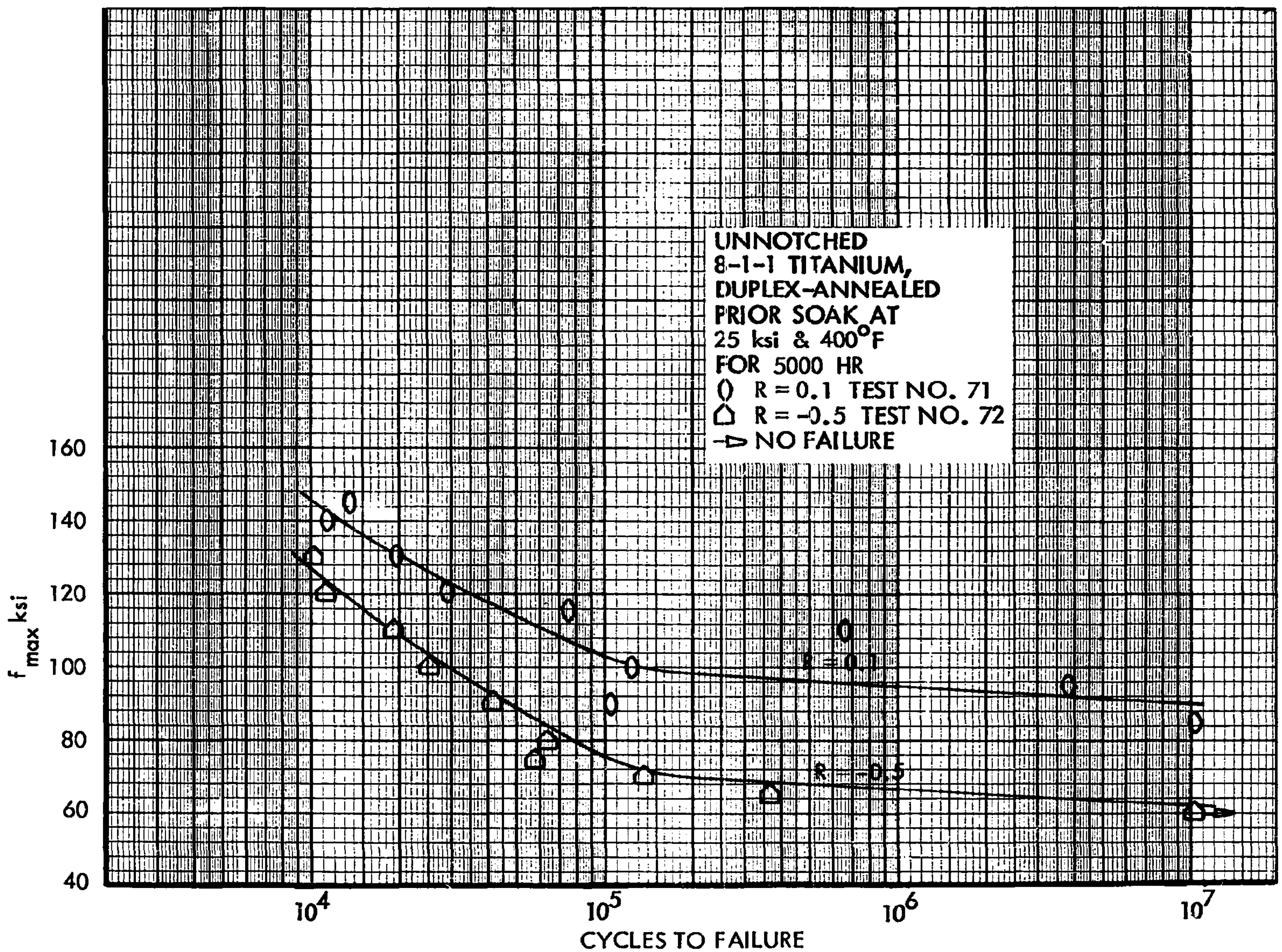


Figure 73. S-N Curves at Room Temperature, Unnotched 8-1-1 Titanium, R = Constant

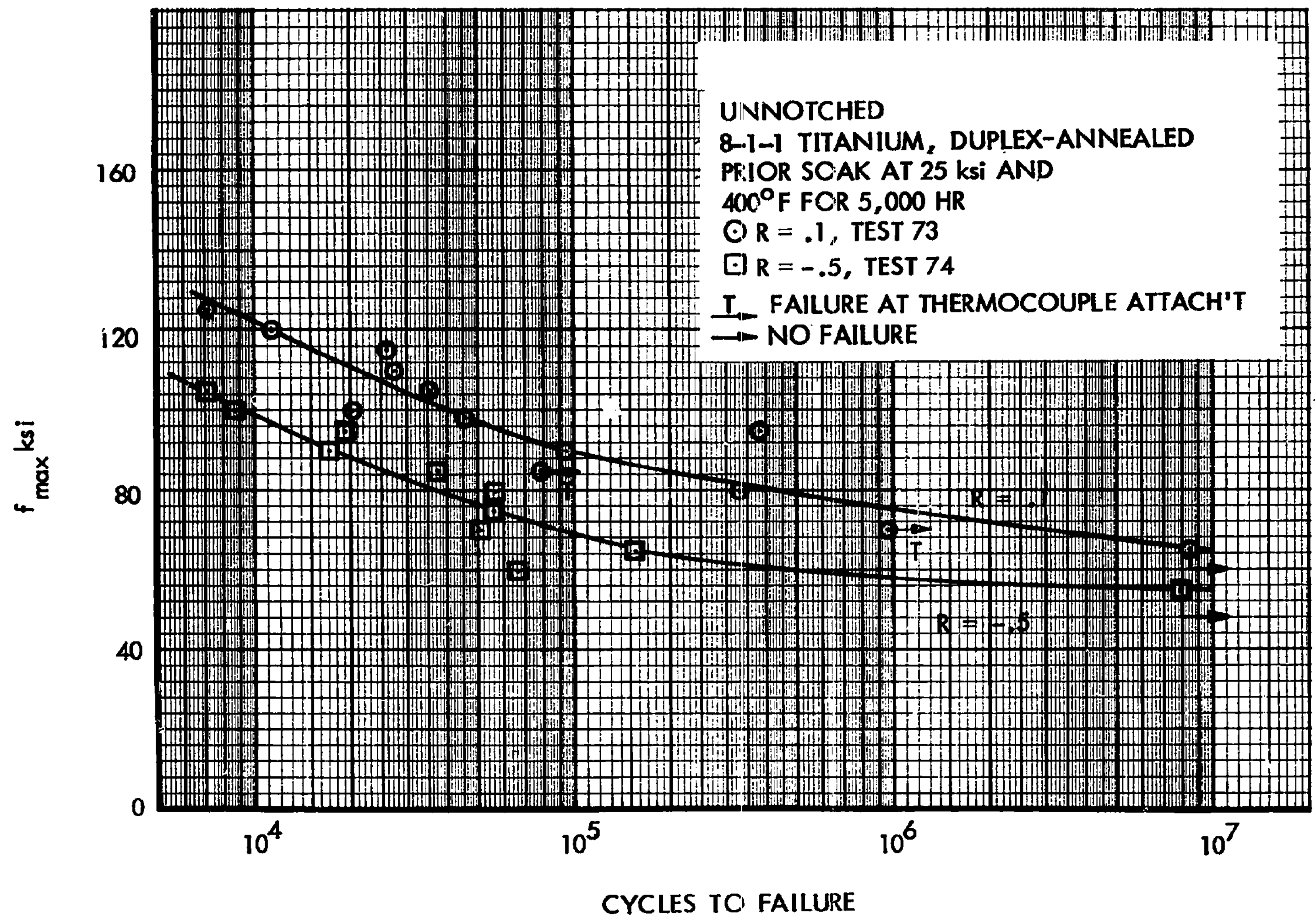


Figure 74. S-N Curves at 400°F, Unnotched 8-1-1 Titanium, R = Constant

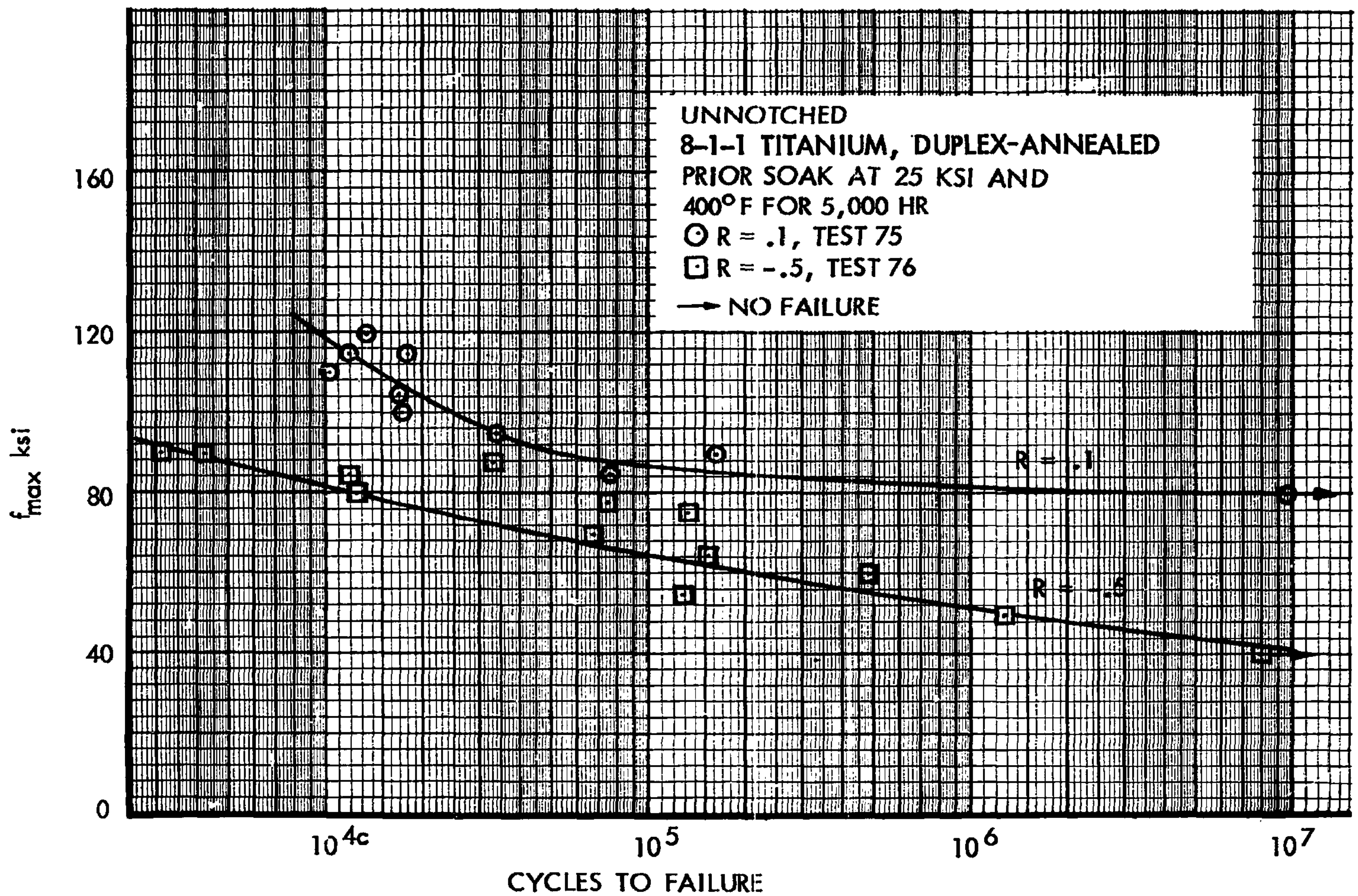


Figure 75. S-N Curves at 650°F, Unnotched 8-1-1 Titanium, R = Constant

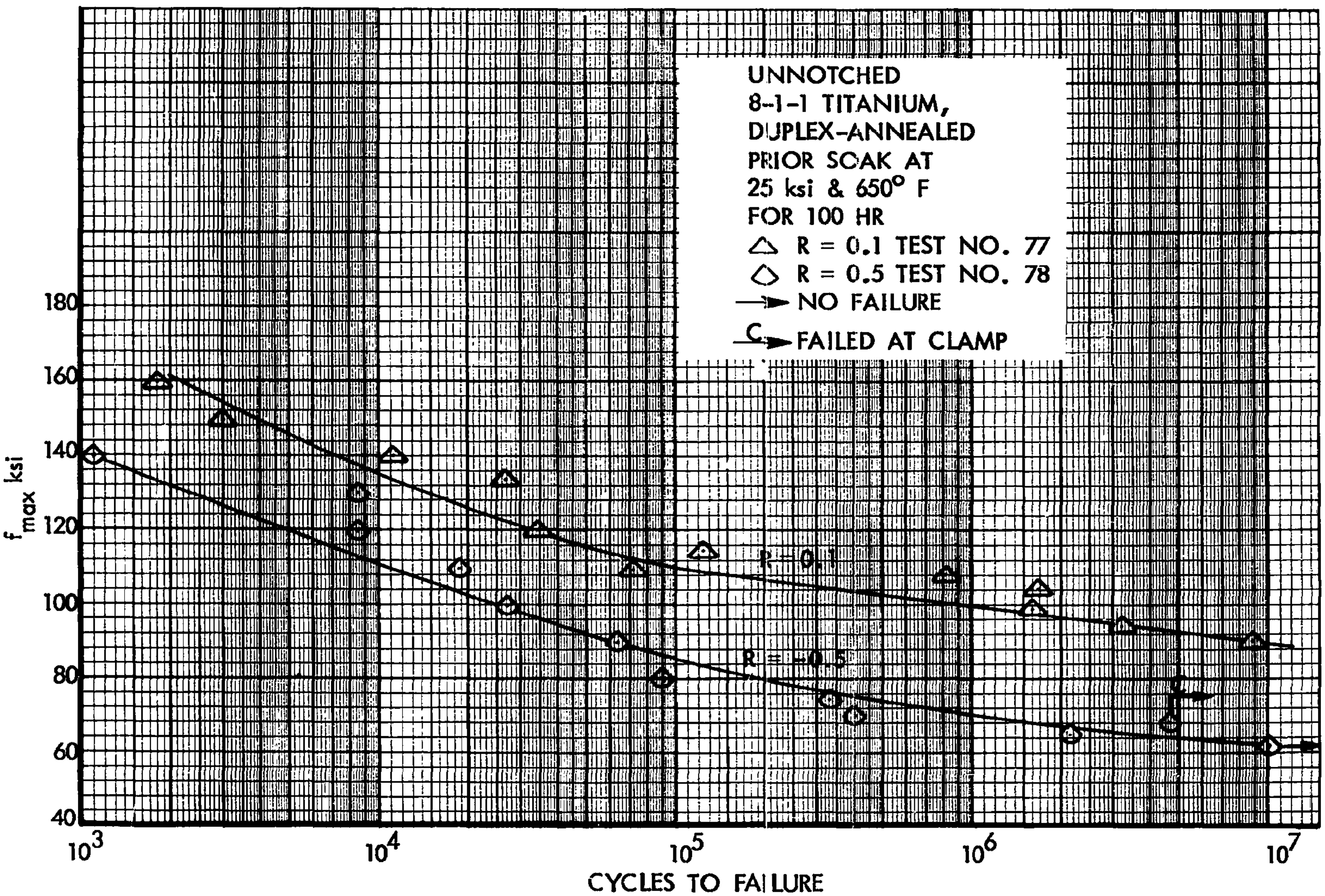


Figure 76. S-N Curves at Room Temperature, Unnotched 8-1-1 Titanium, R = Constant

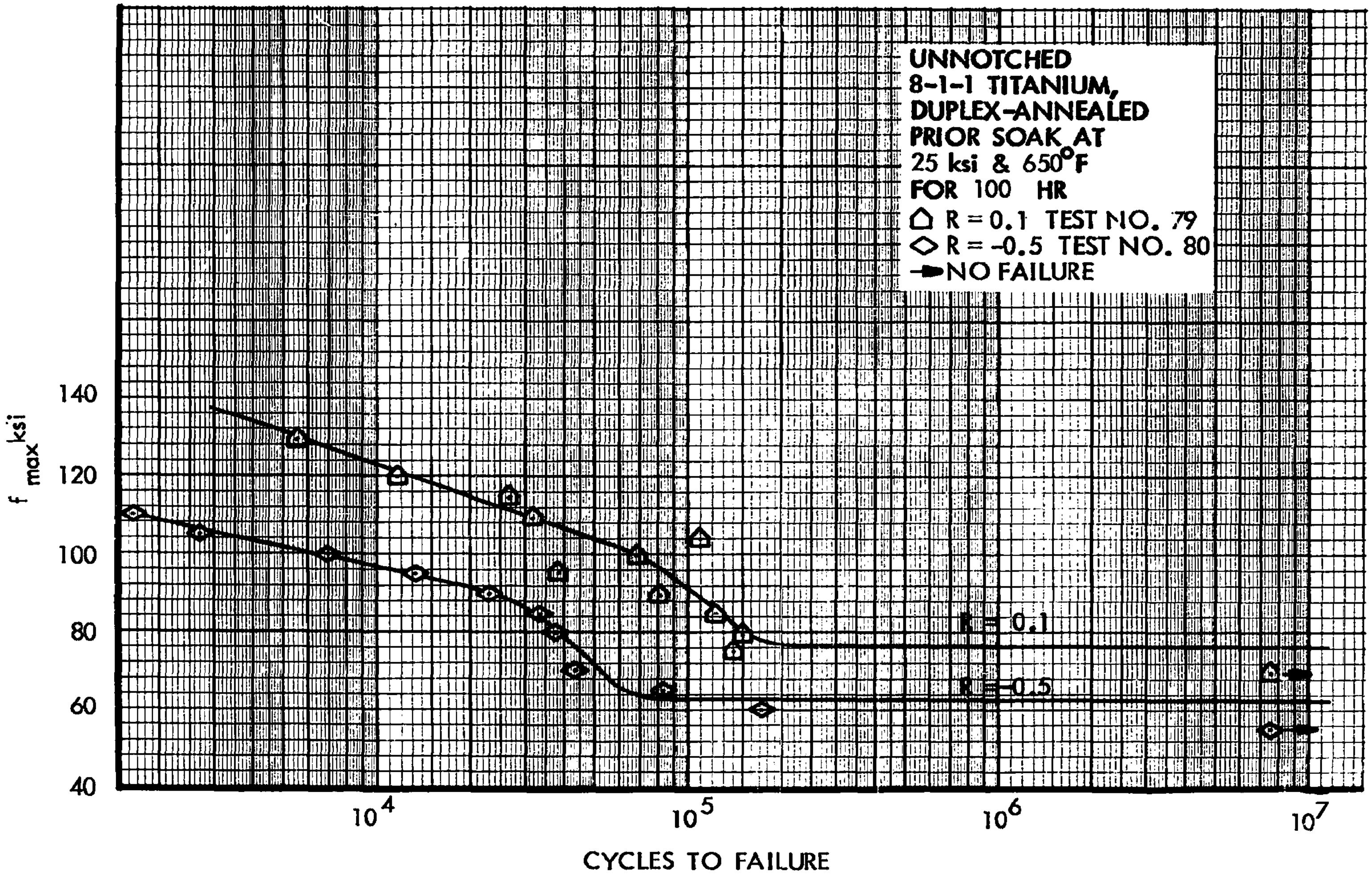


Figure 77. S-N Curves at 400°F, Unnotched 8-1-1 Titanium, R = Constant

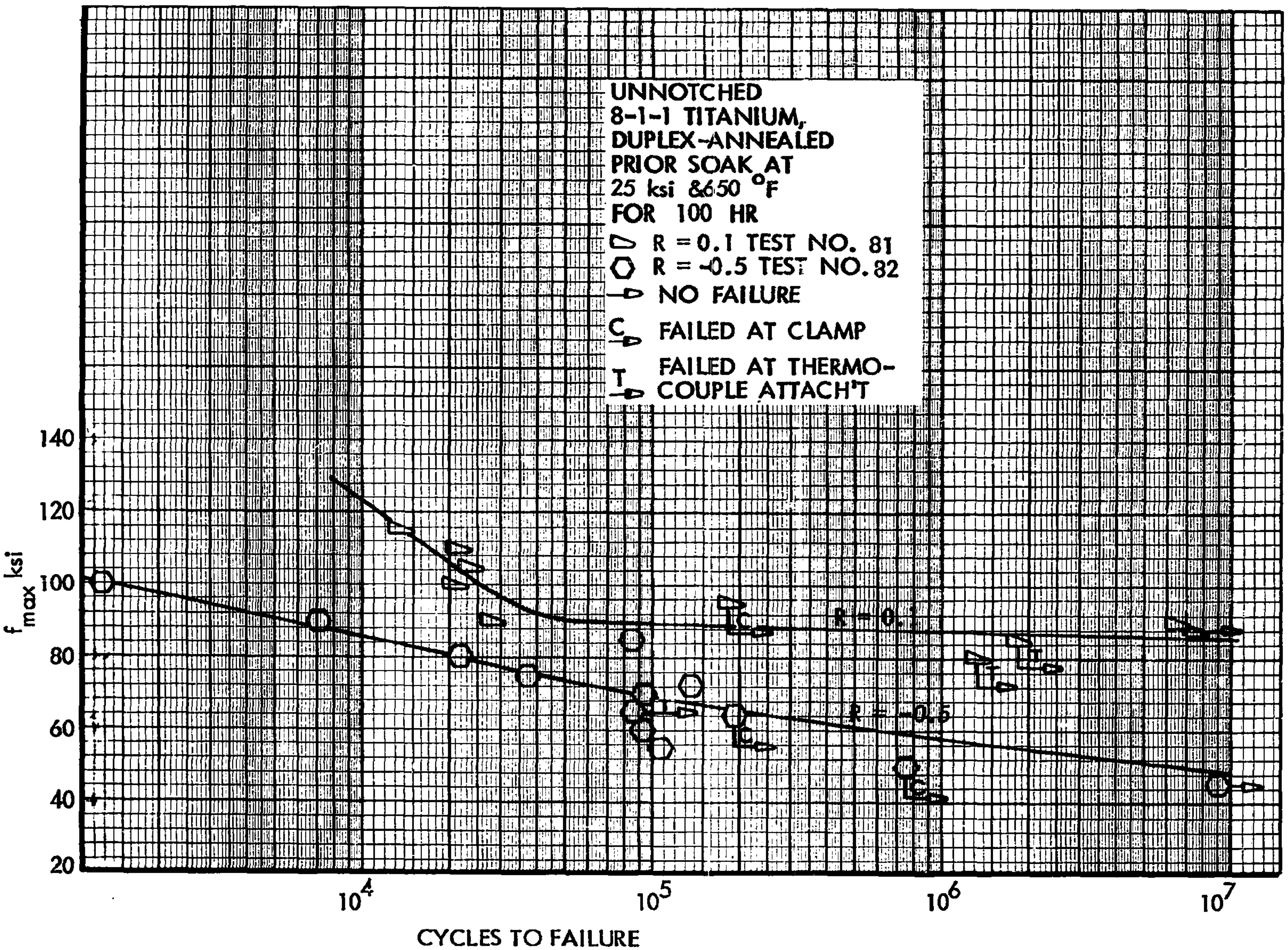


Figure 78. S-N Curves at 650°F, Unnotched 8-1-1 Titanium, R = Constant

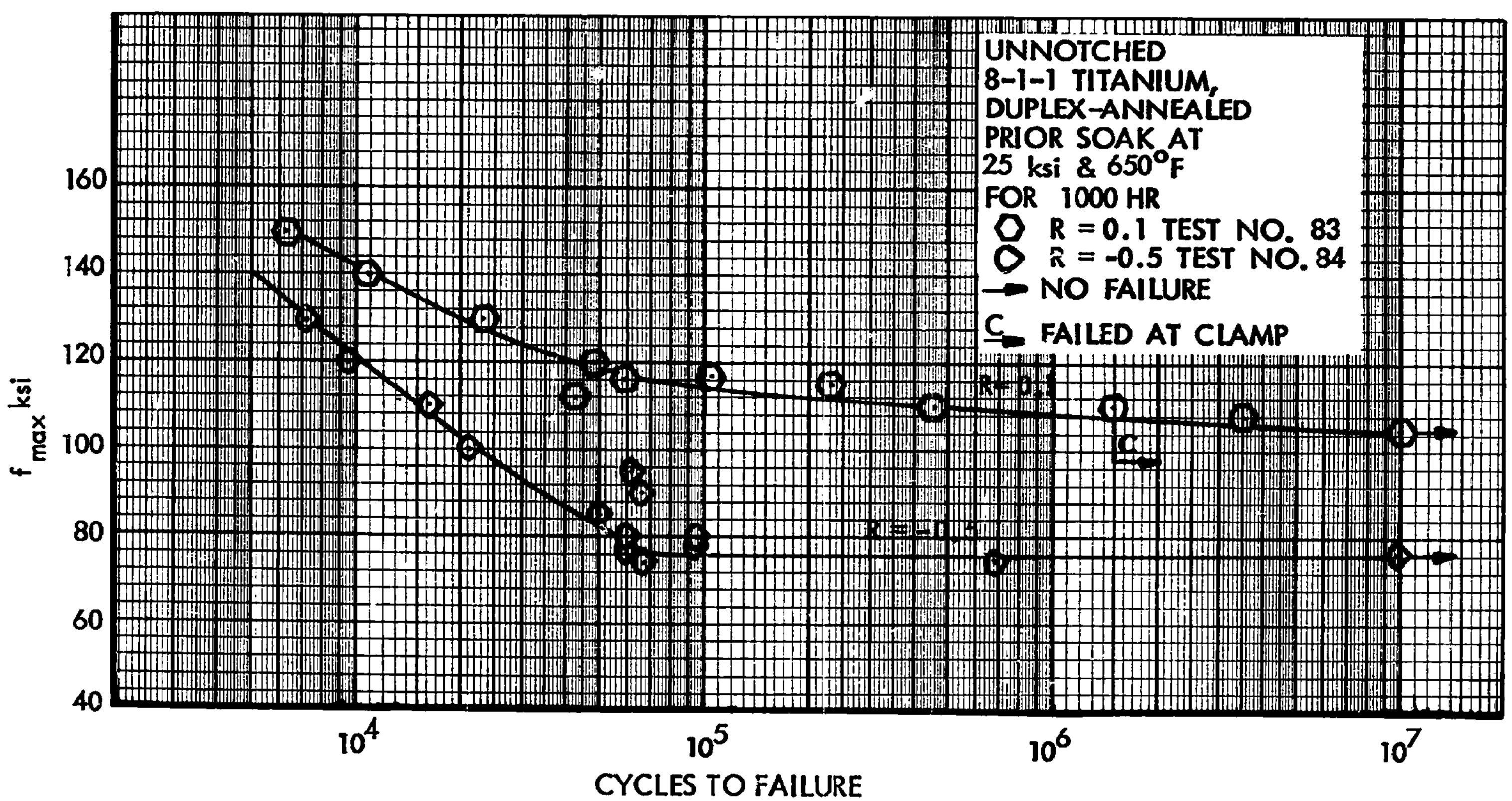


Figure 79. S-N Curves at Room Temperature, Unnotched 8-1-1 Titanium, R = Constant

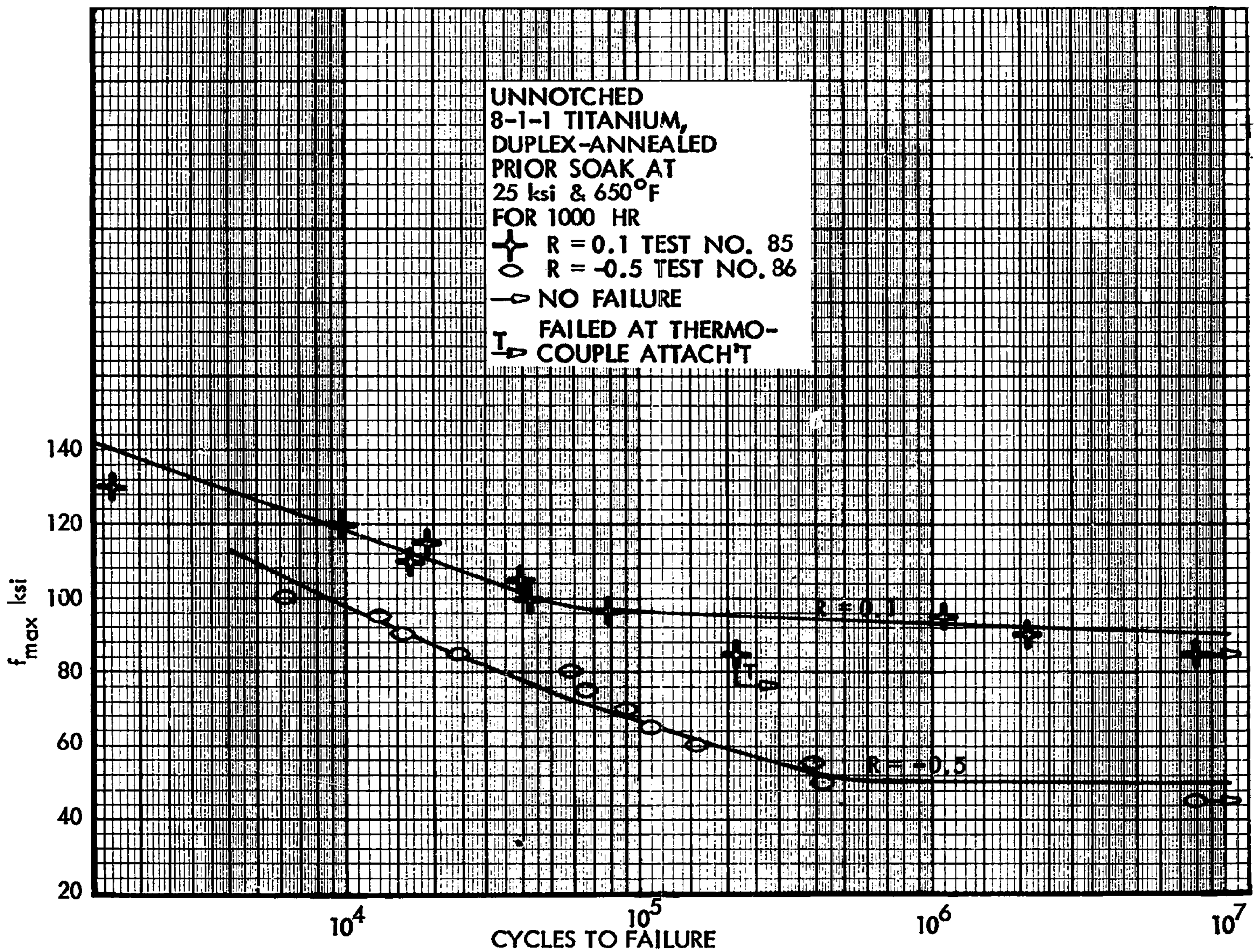


Figure 80. S-N Curves at 400°F, Unnotched 8-1-1 Titanium, R = Constant

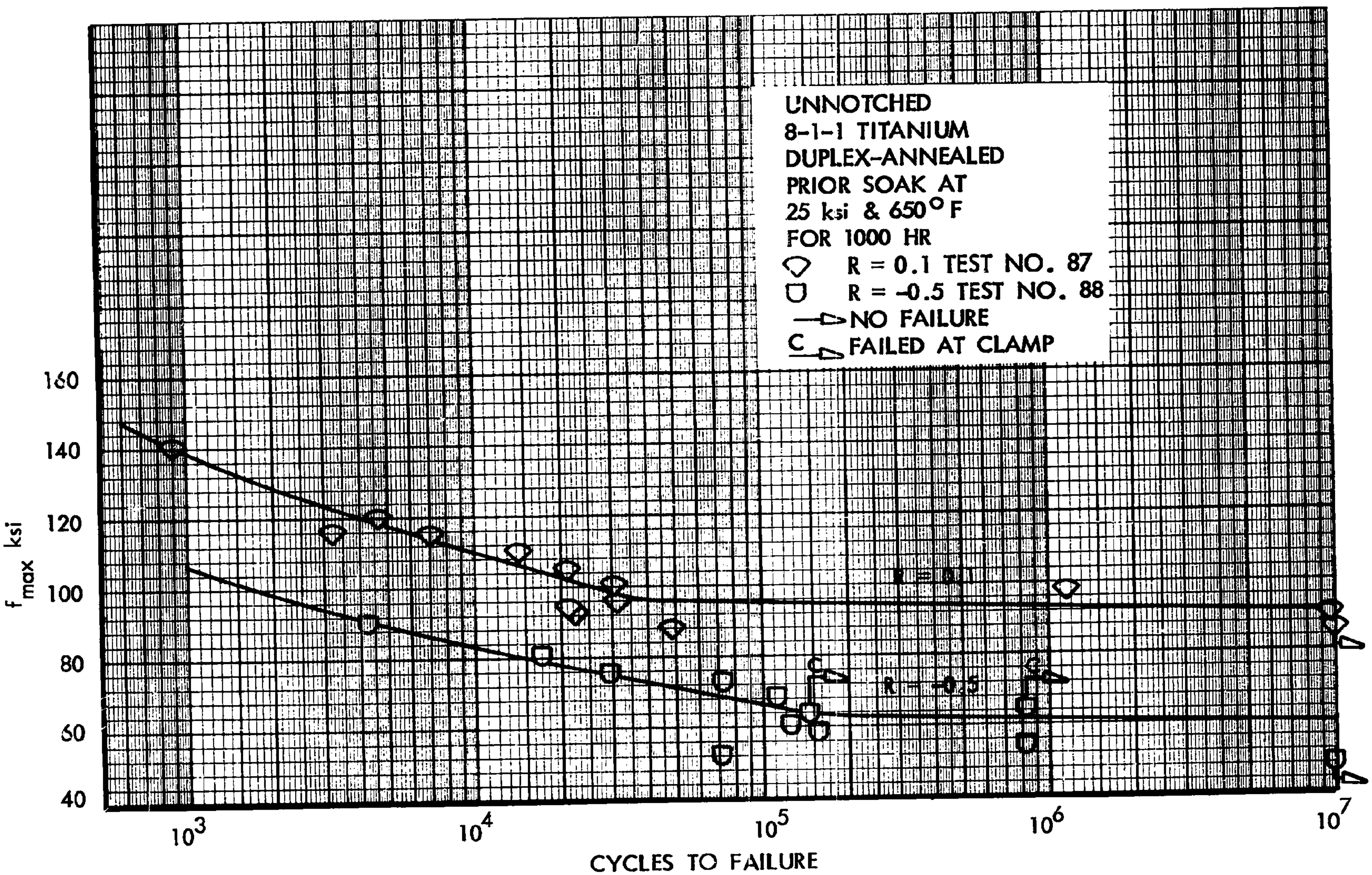


Figure 81. S-N Curves at 650°F, Unnotched 8-1-1 Titanium, R = Constant

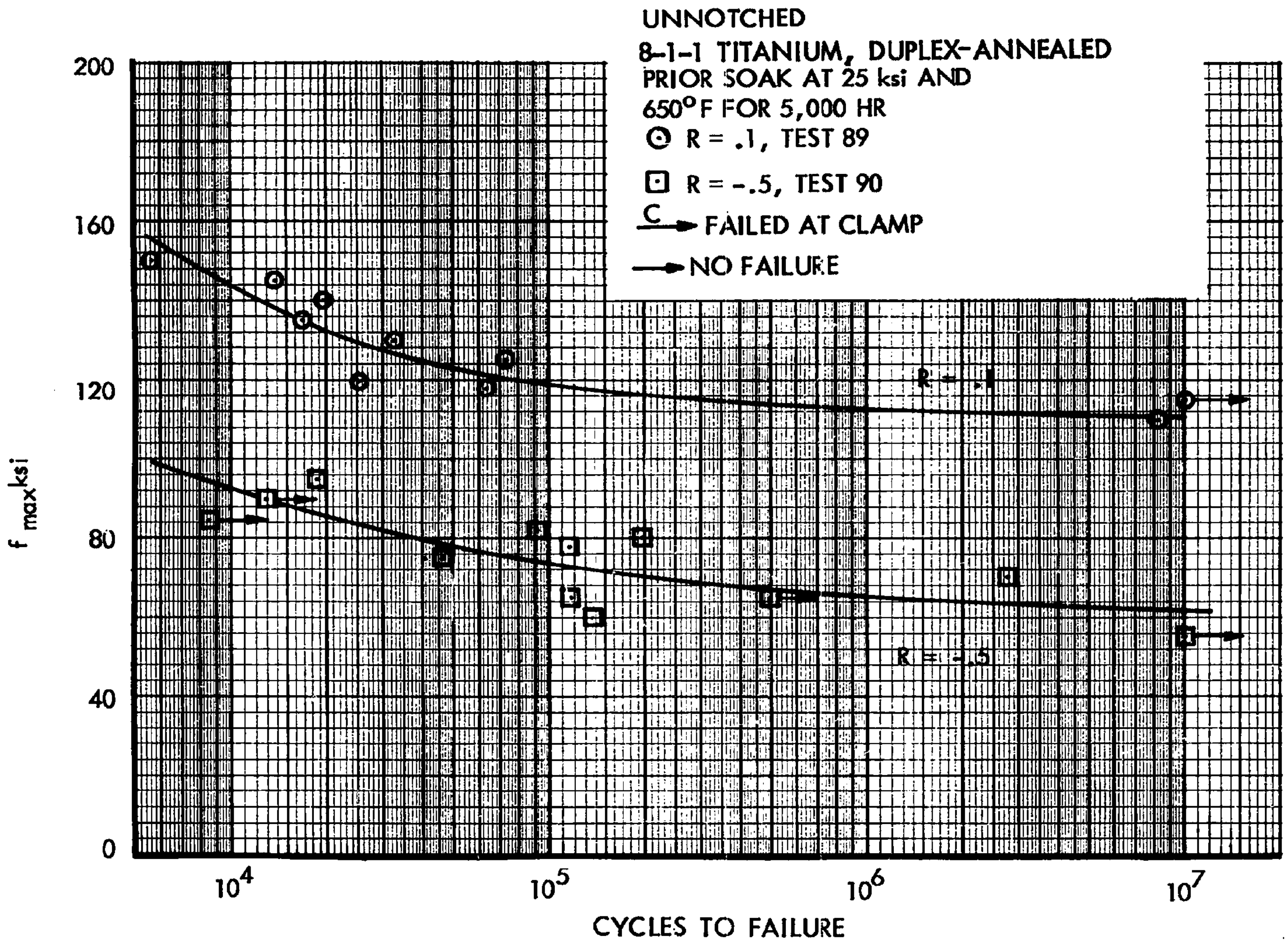


Figure 82. S-N Curves at Room Temperature, Unnotched 8-1-1 Titanium, R = Constant

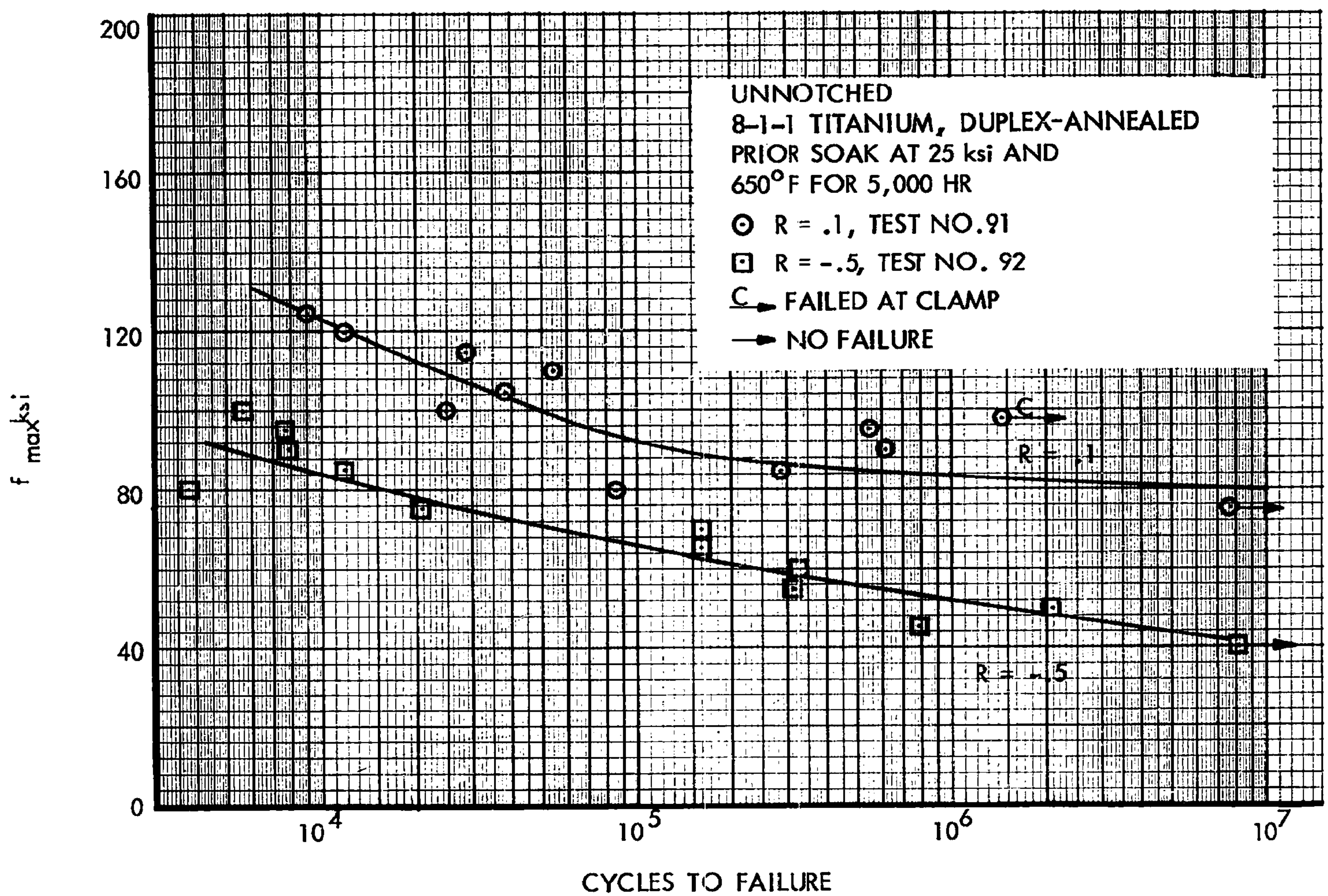


Figure 83. S-N Curves at 400°F, Unnotched 8-1-1 Titanium, R = Constant

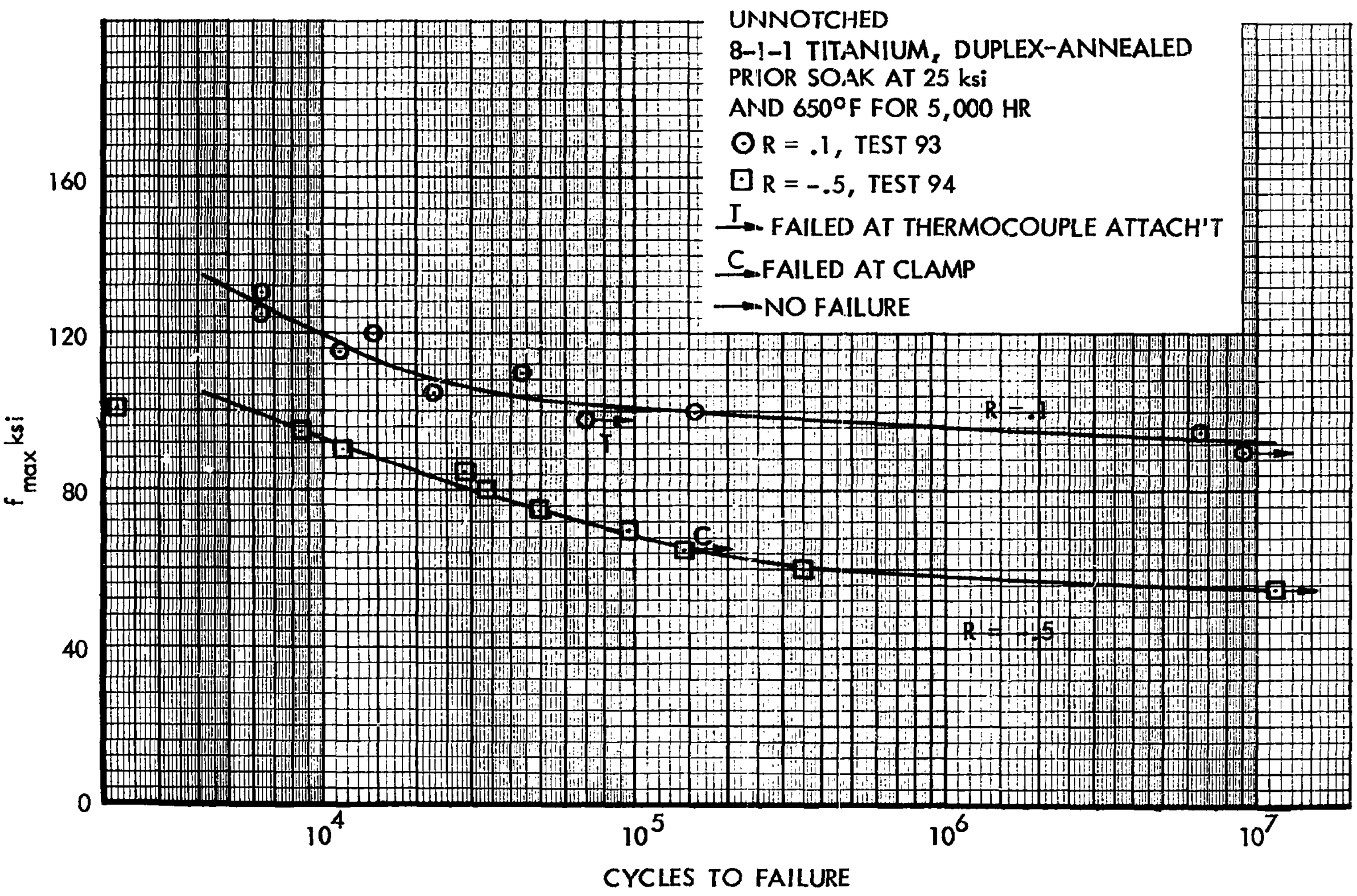


Figure 84. S-N Curves at 650°F, Unnotched 8-1-1 Titanium, R = Constant

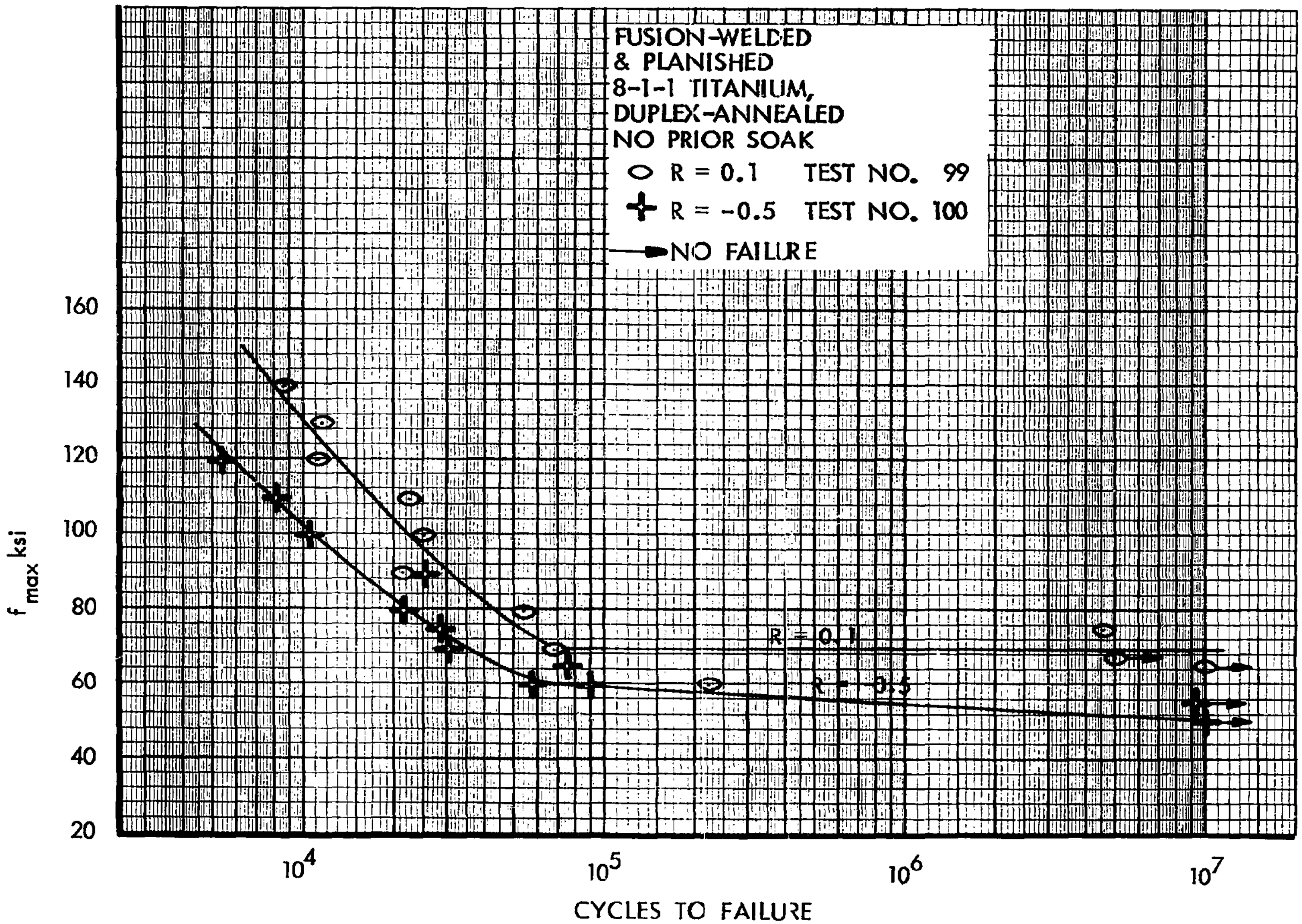


Figure 85. S-N Curves at Room Temperature, Fusion-Welded 8-1-1 Titanium, R = Constant

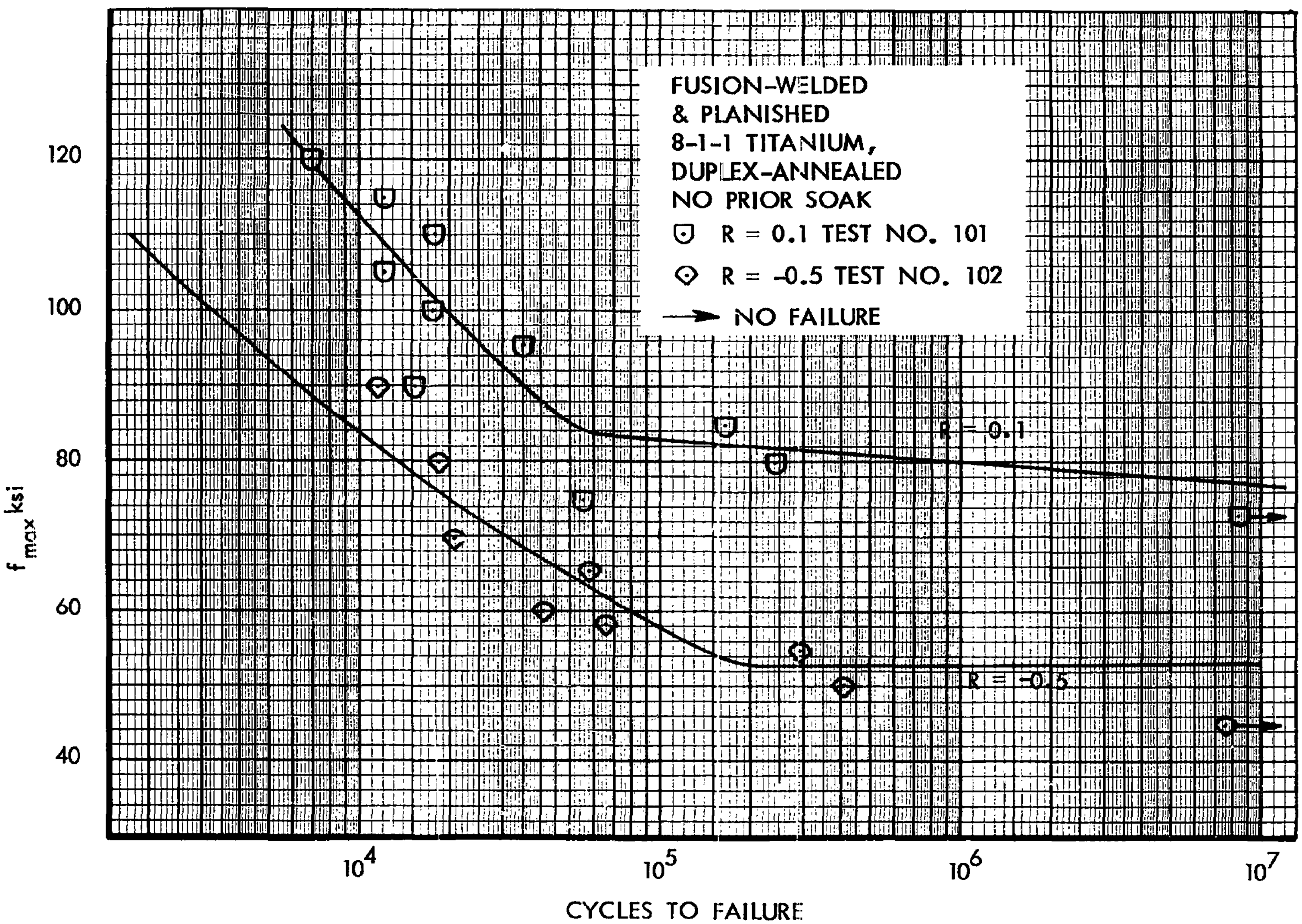


Figure 86. S-N Curves at 400°F, Fusion-Welded 8-1-1 Titanium, R = Constant

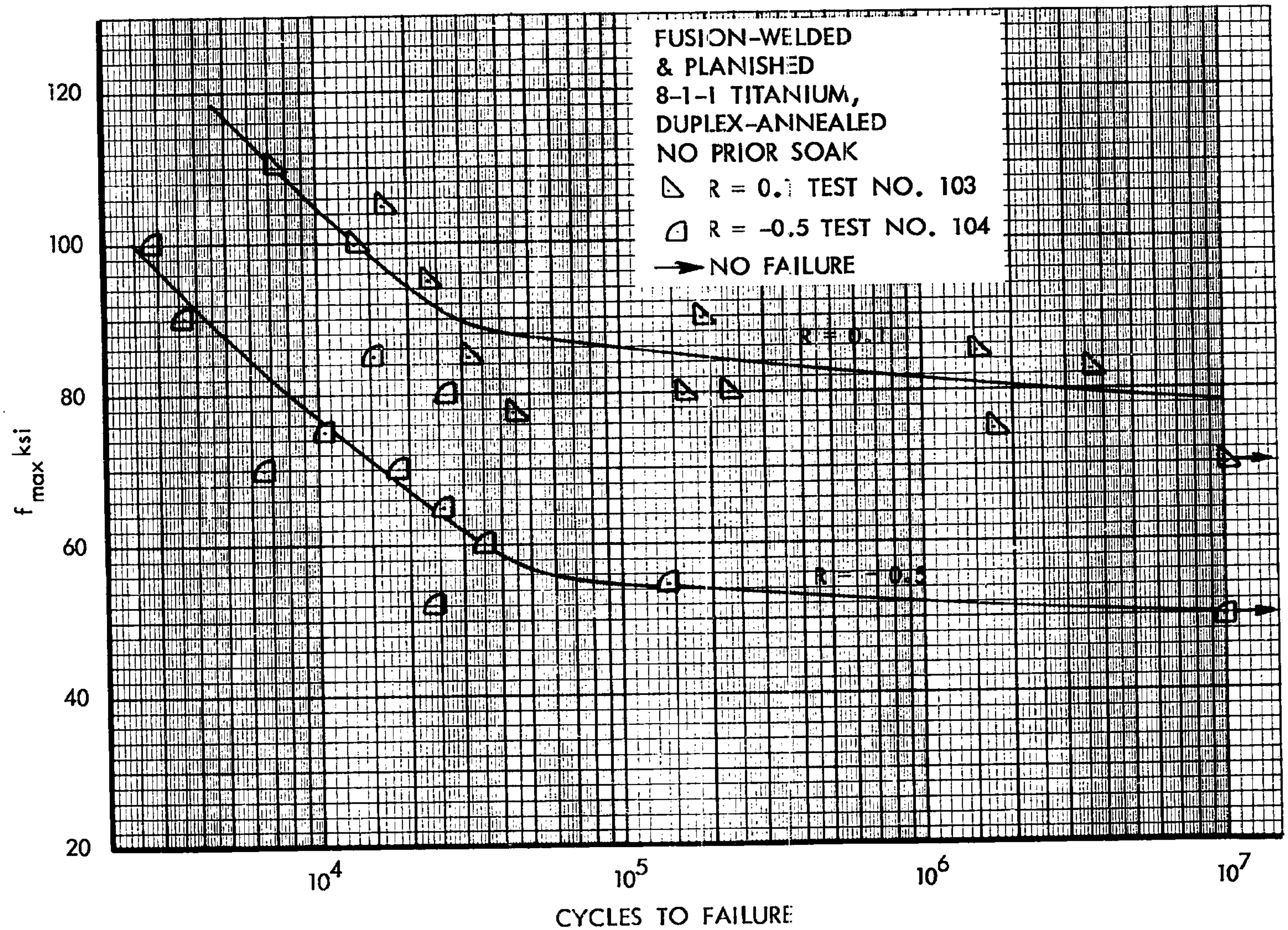


Figure 87. S-N Curves at 650°F, Fusion-Welded 8-1-1 Titanium, R = Constant

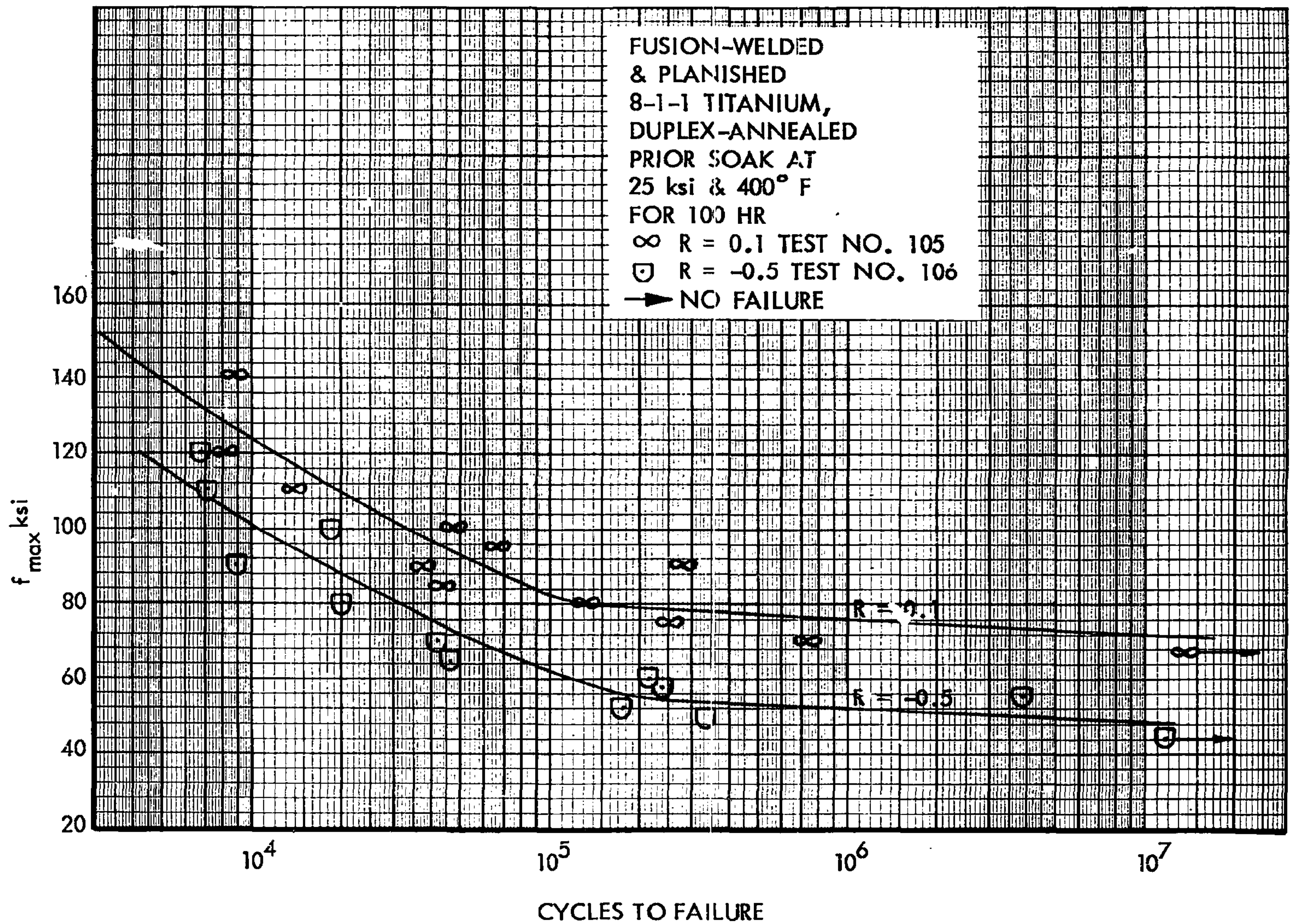


Figure 88. S-N Curves at Room Temperature, Fusion-Welded 8-1-1 Titanium, R = Constant

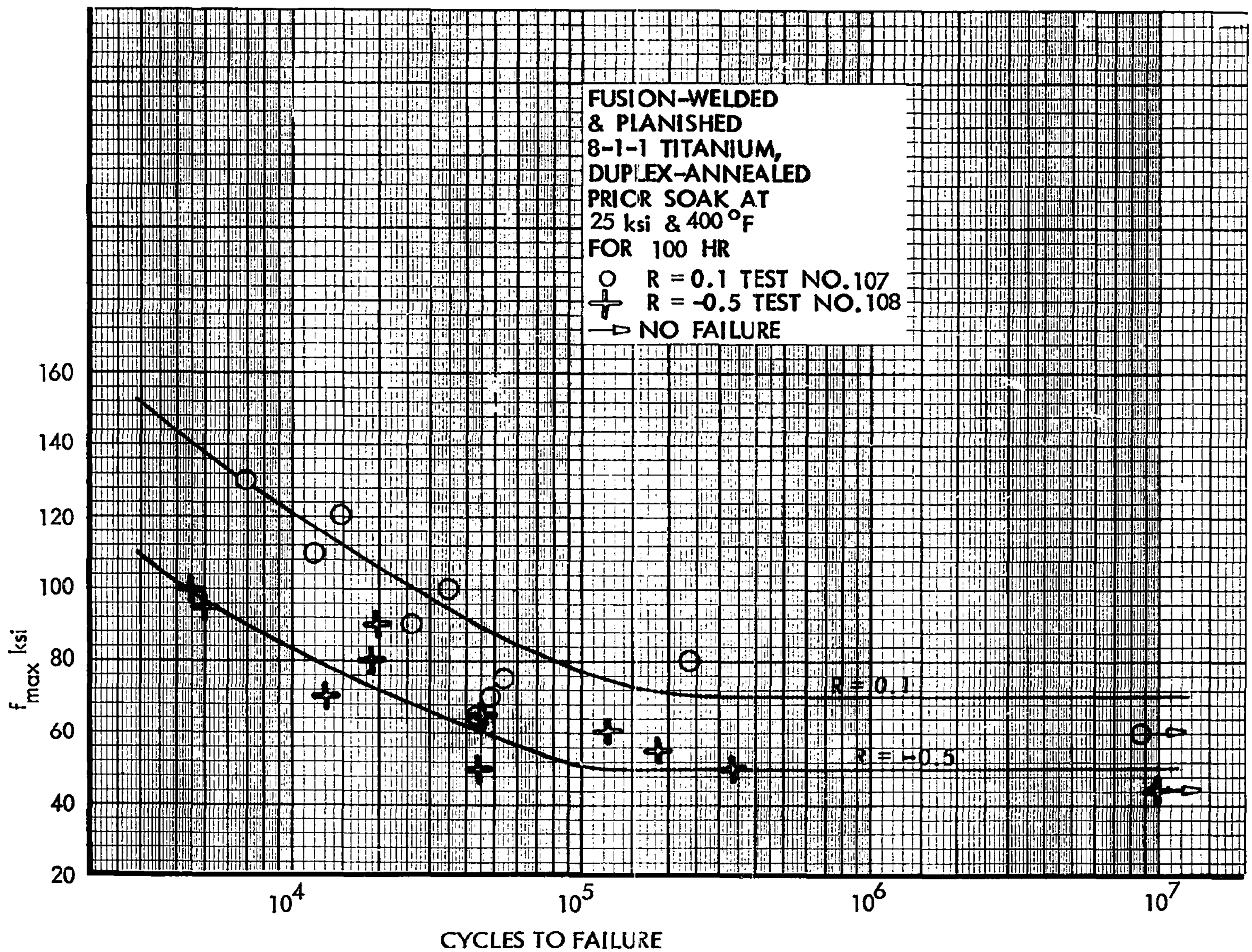


Figure 89. S-N Curves at 400°F, Fusion-Welded 8-1-1 Titanium, R = Constant

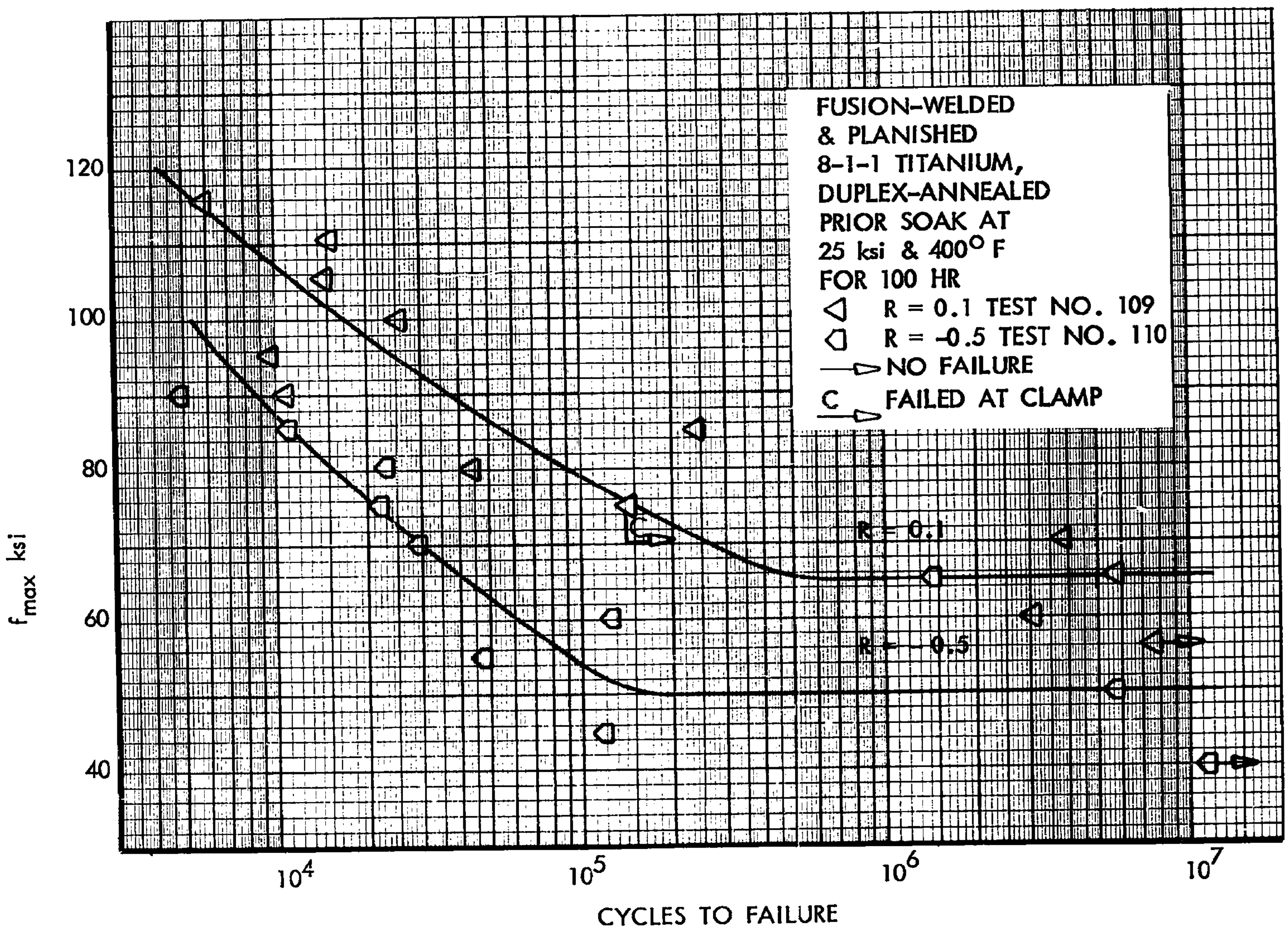


Figure 90. S-N Curves at 650°F, Fusion-Welded 8-1-1 Titanium, R = Constant

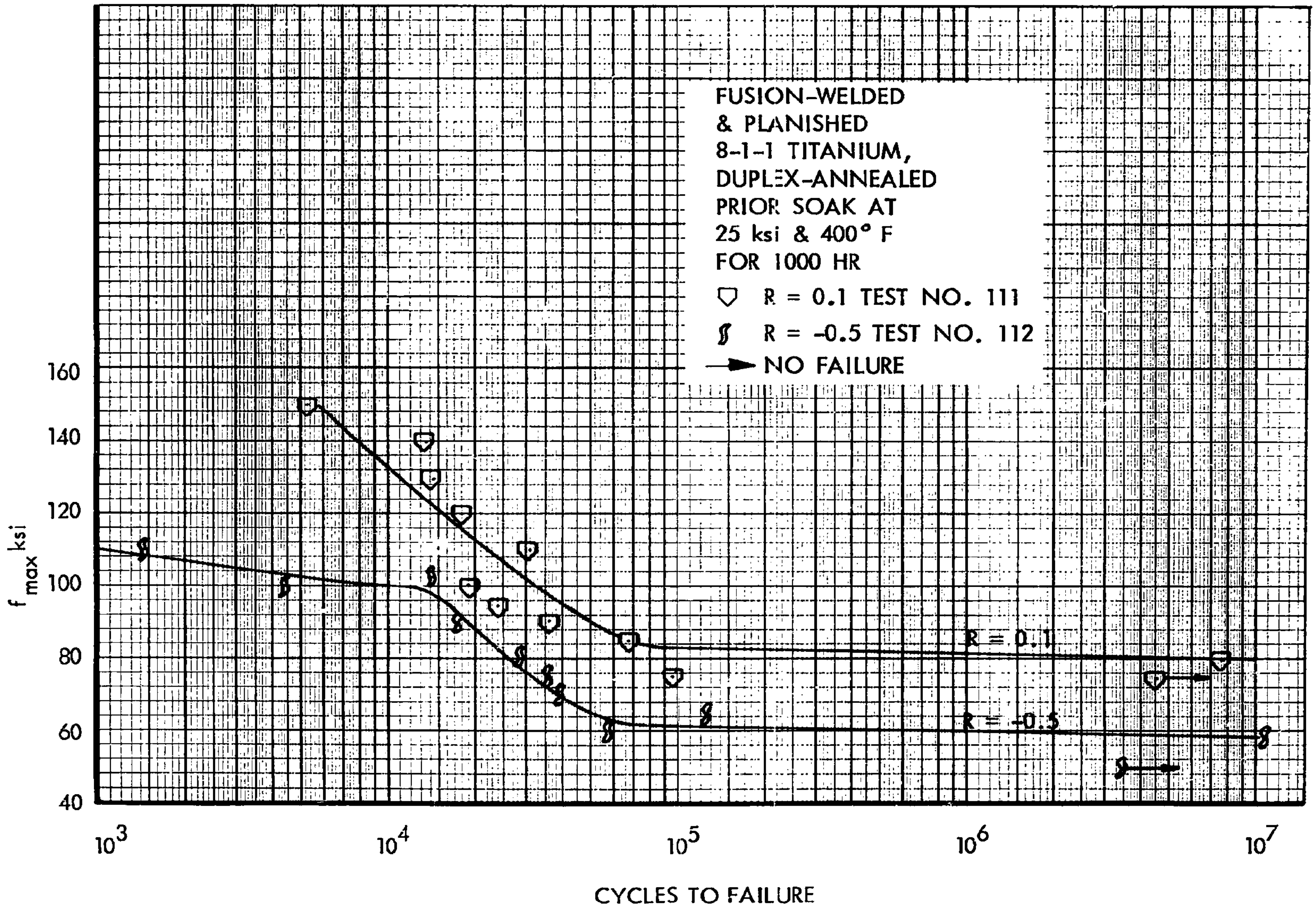


Figure 91. S-N Curves at Room Temperature, Fusion-Welded 8-1-1 Titanium, R = Constant

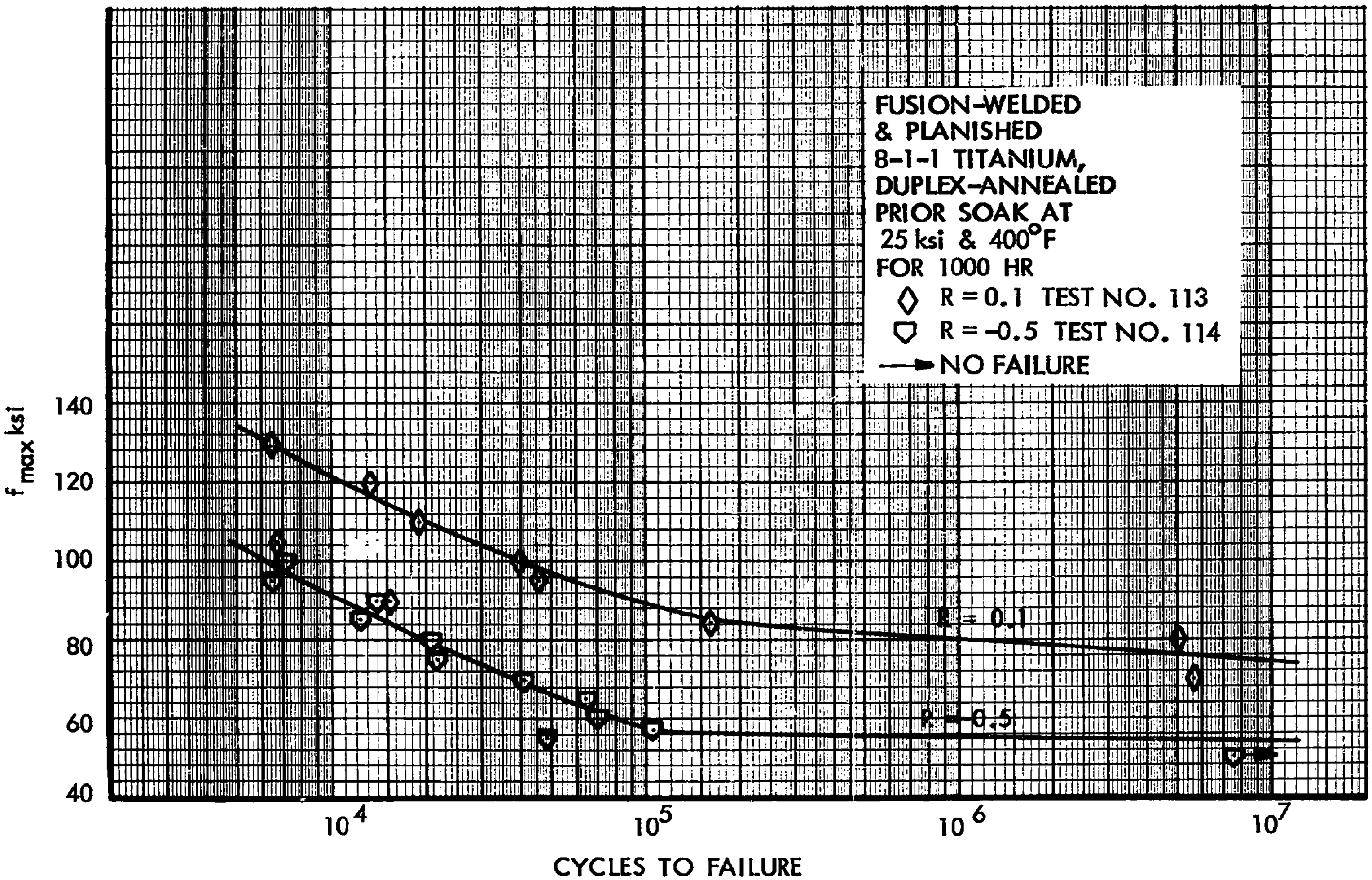


Figure 92. S-N Curves at 400°F, Fusion-Welded 8-1-1 Titanium, R = Constant

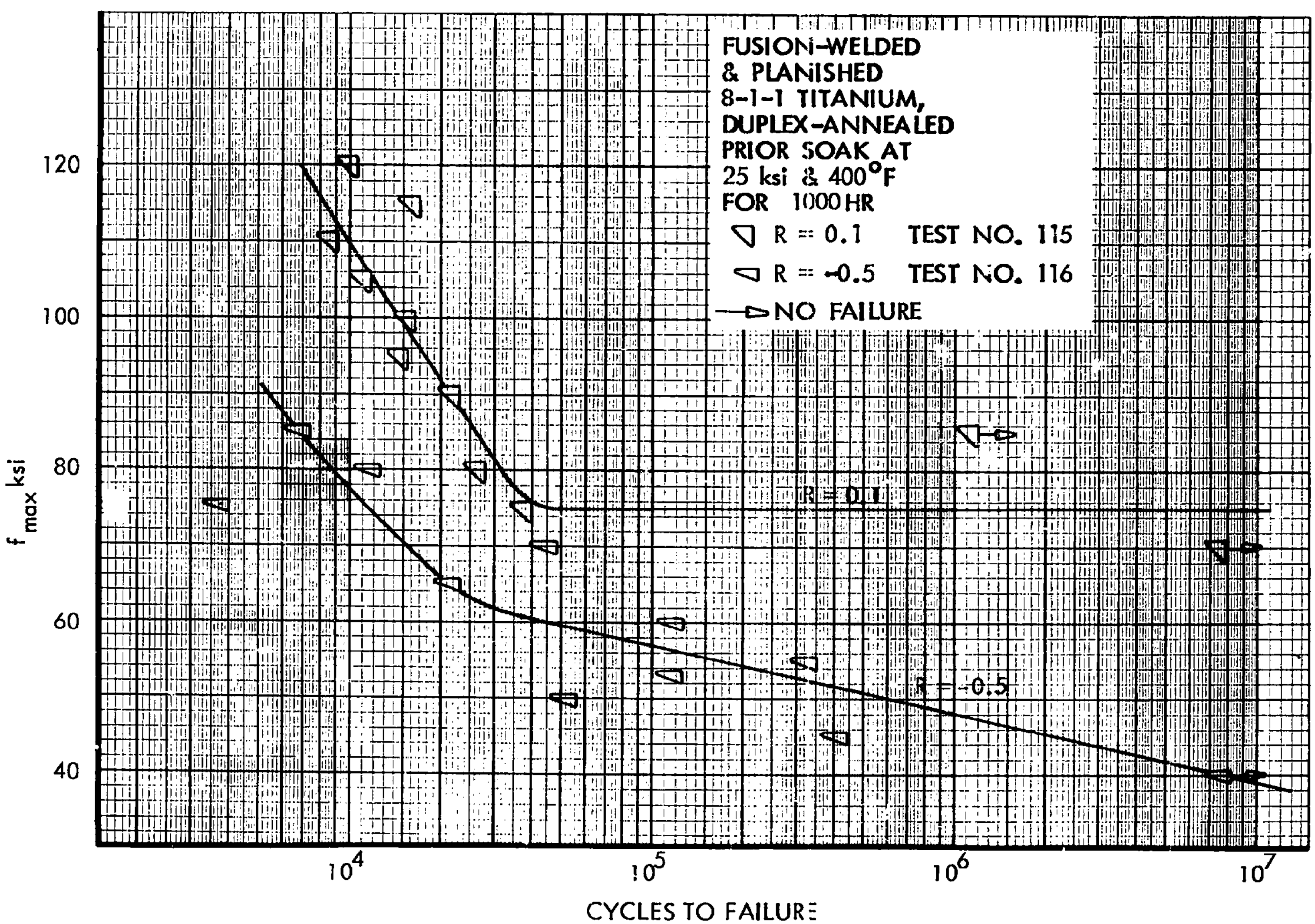


Figure 93. S-N Curves at 650°F, Fusion-Welded 8-1-1 Titanium, R = Constant

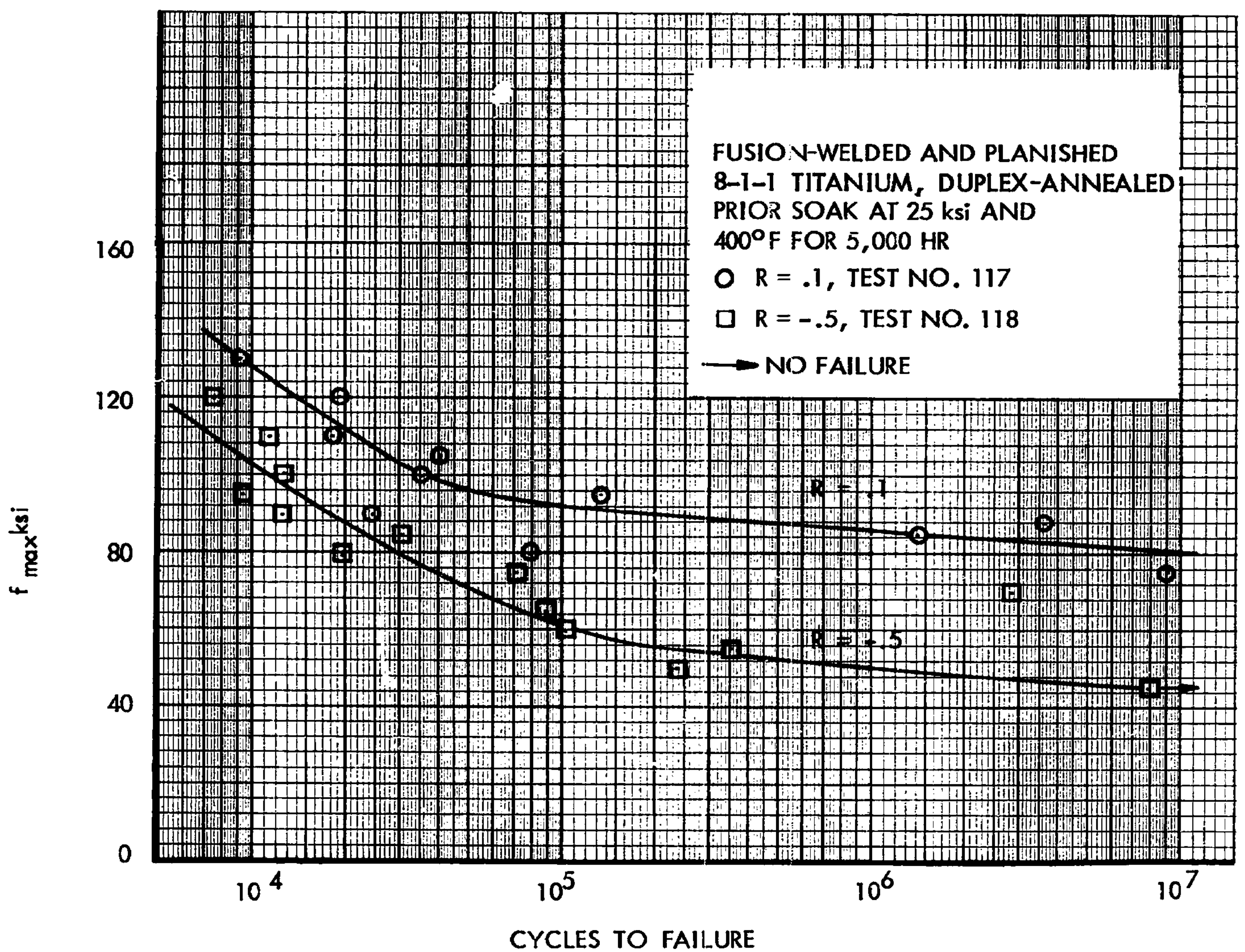


Figure 94. S-N Curves at Room Temperature, Fusion-Welded 8-1-1 Titanium, R = Constant

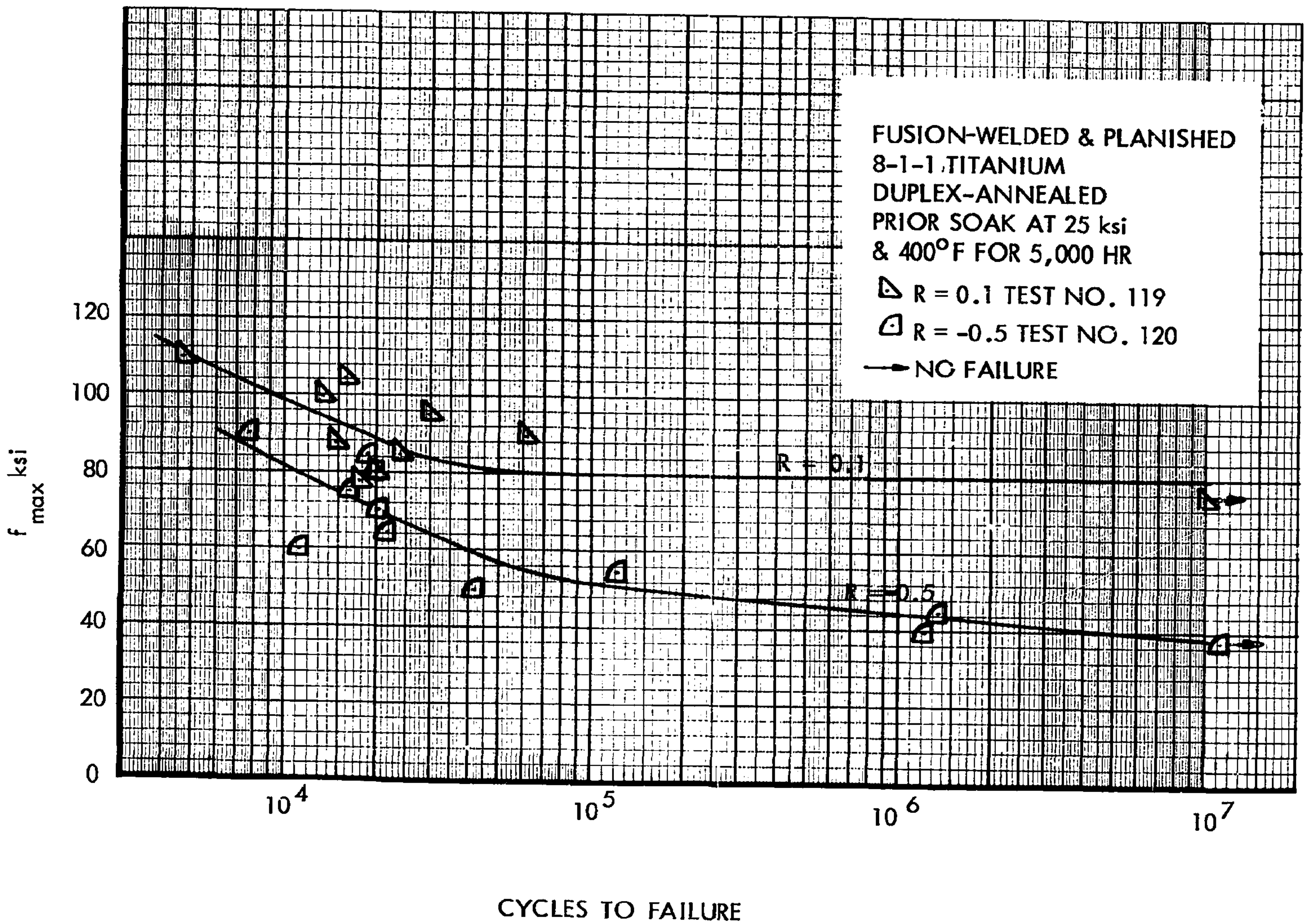


Figure 95. S-N Curves at 400°F, Fusion-Welded 8-1-1 Titanium, R = Constant

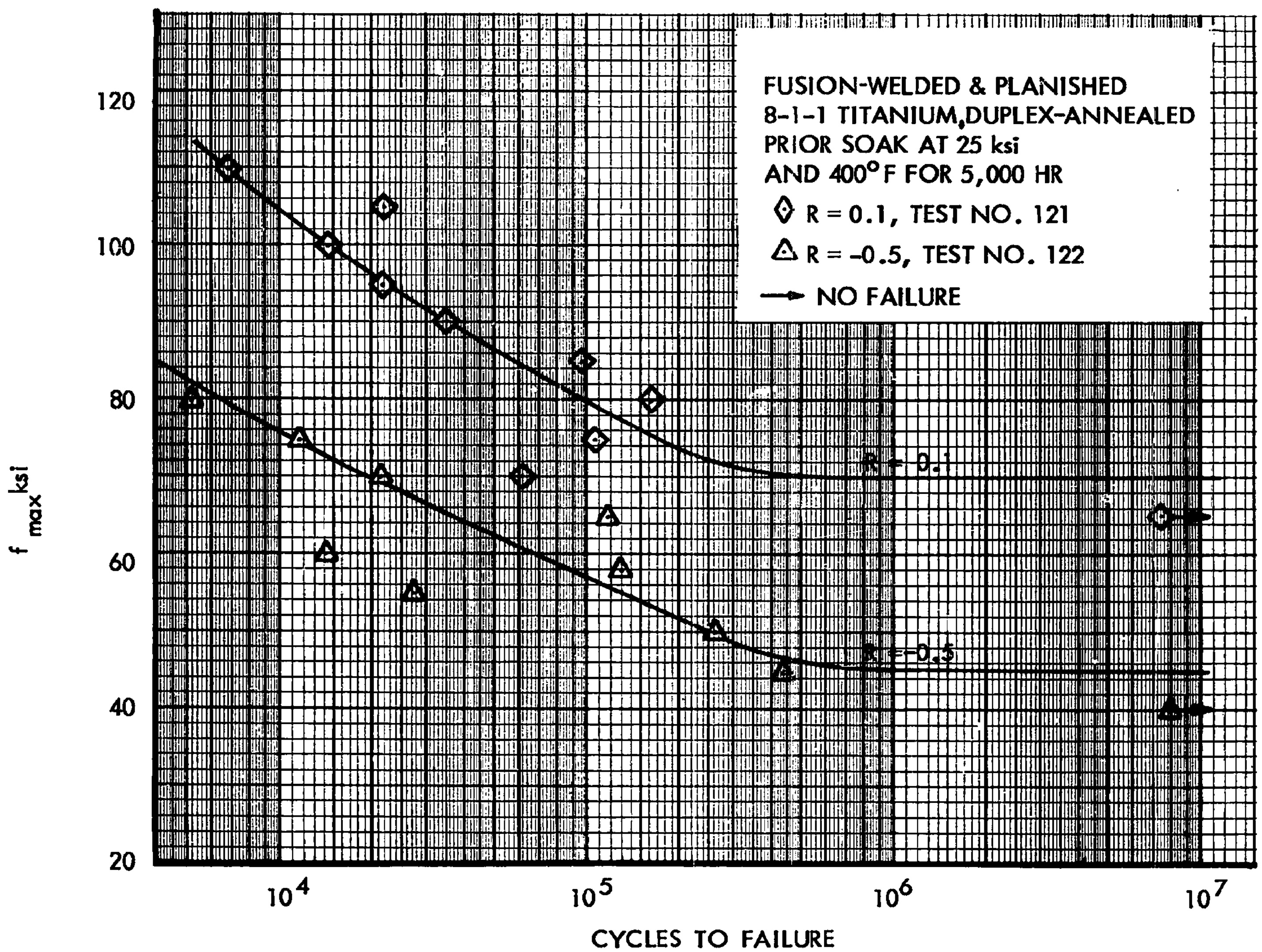


Figure 96. S-N Curves at 650°F, Fusion-Welded 8-1-1 Titanium, R = Constant

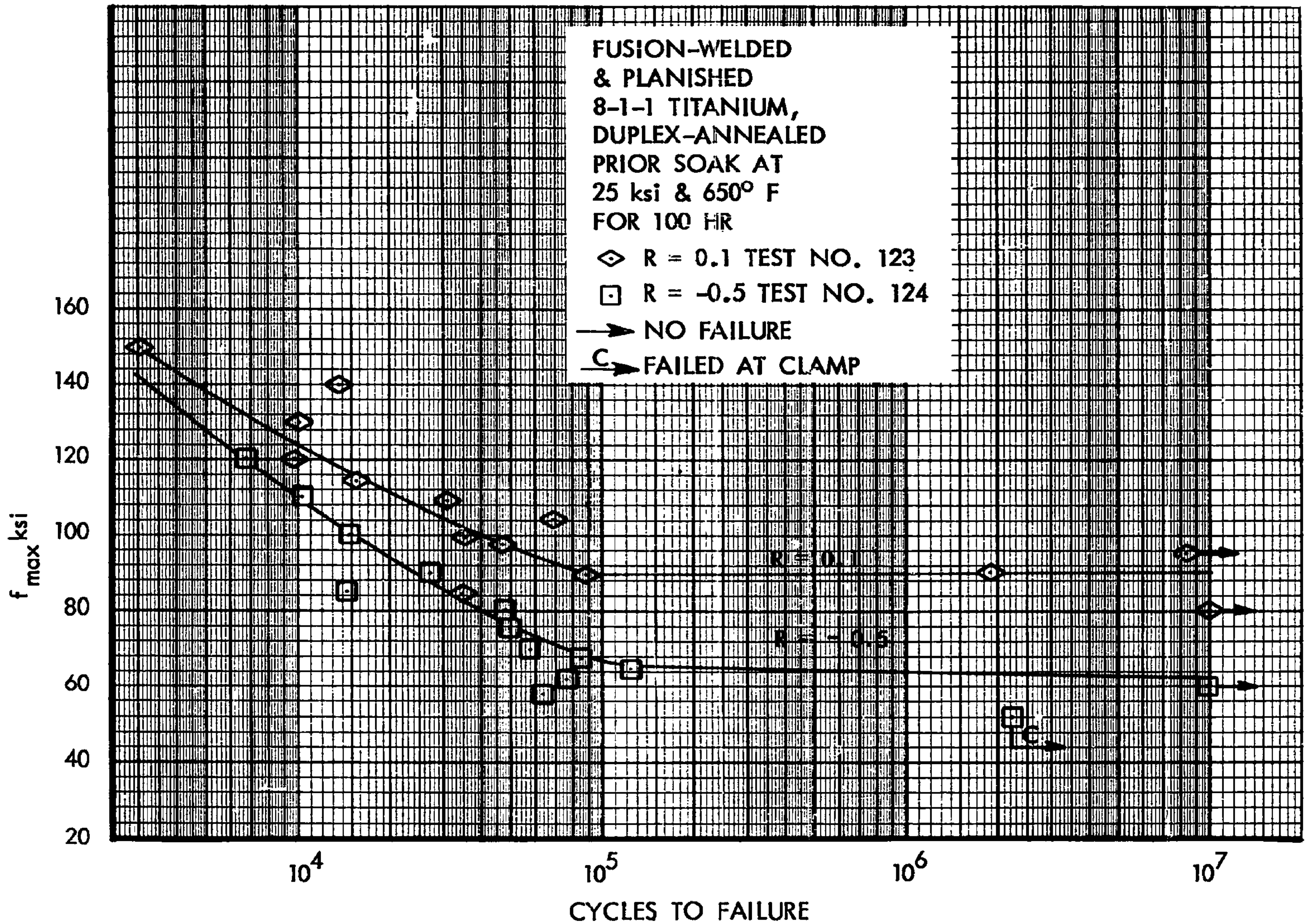


Figure 97. S-N Curves at Room Temperature, Fusion-Welded 8-1-1 Titanium, R = Constant

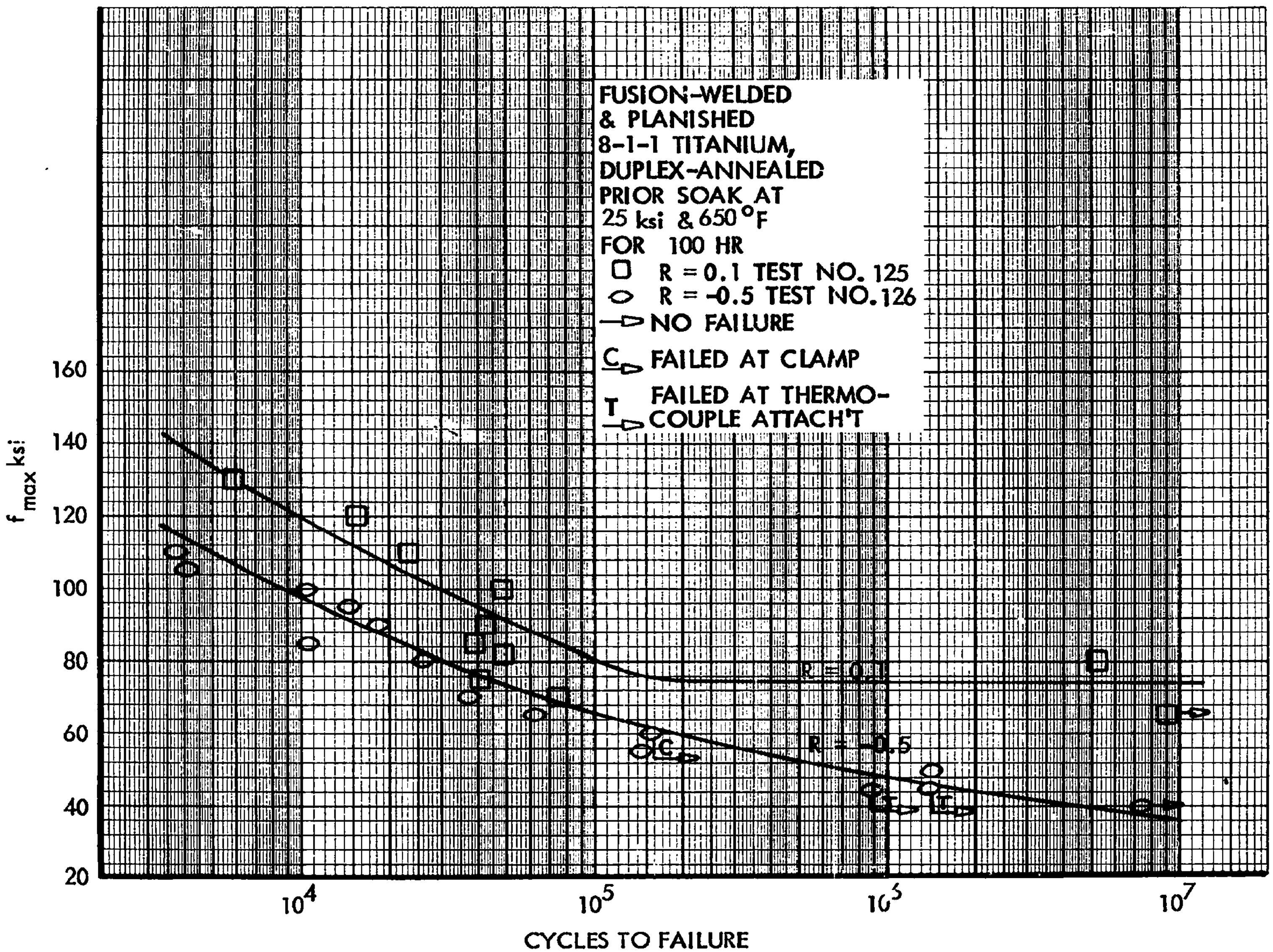


Figure 98. S-N Curves at 400°F, Fusion-Welded 8-1-1 Titanium, R = Constant

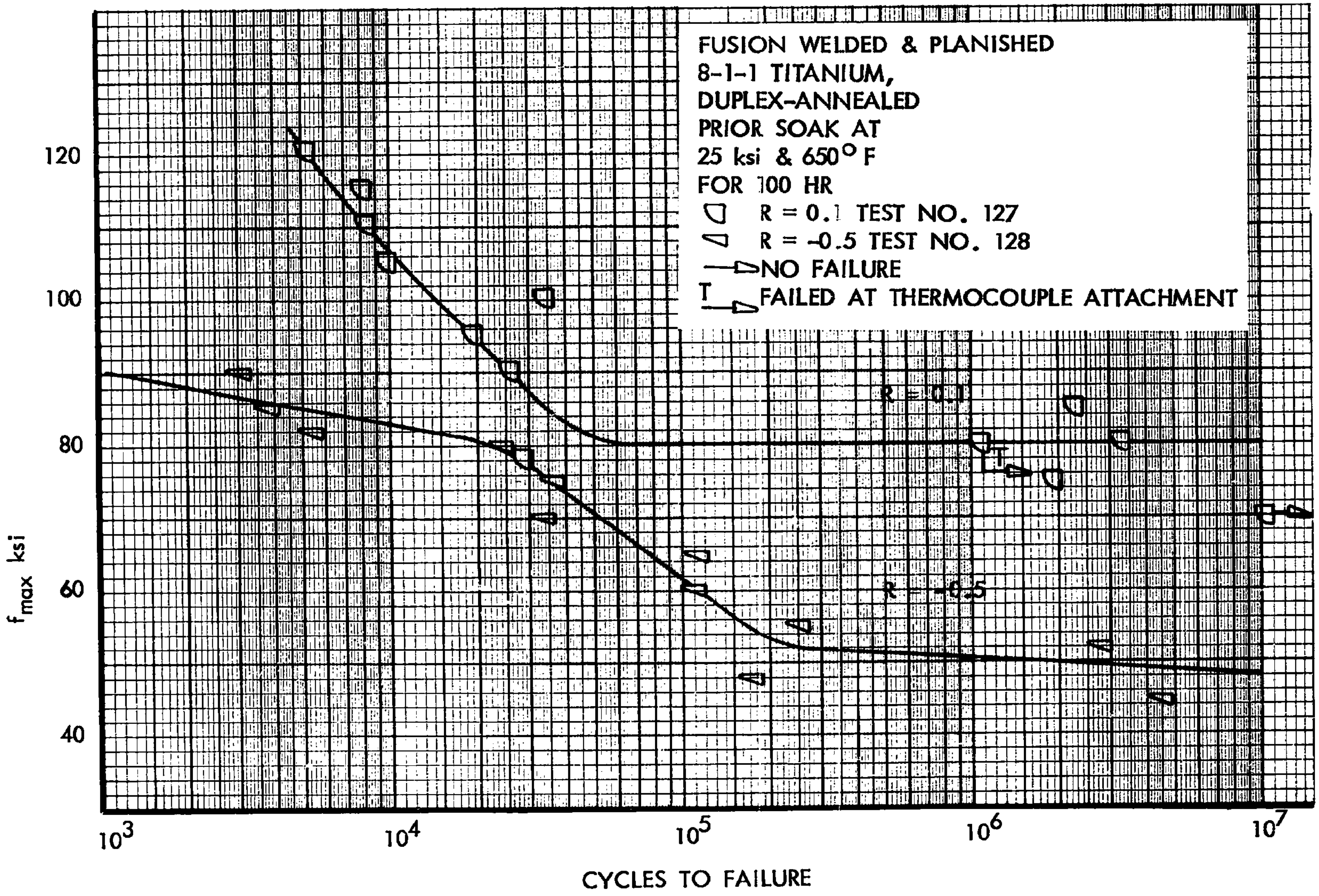


Figure 99. S-N Curves at 650°F, Fusion-Welded 8-1-1 Titanium, R = Constant

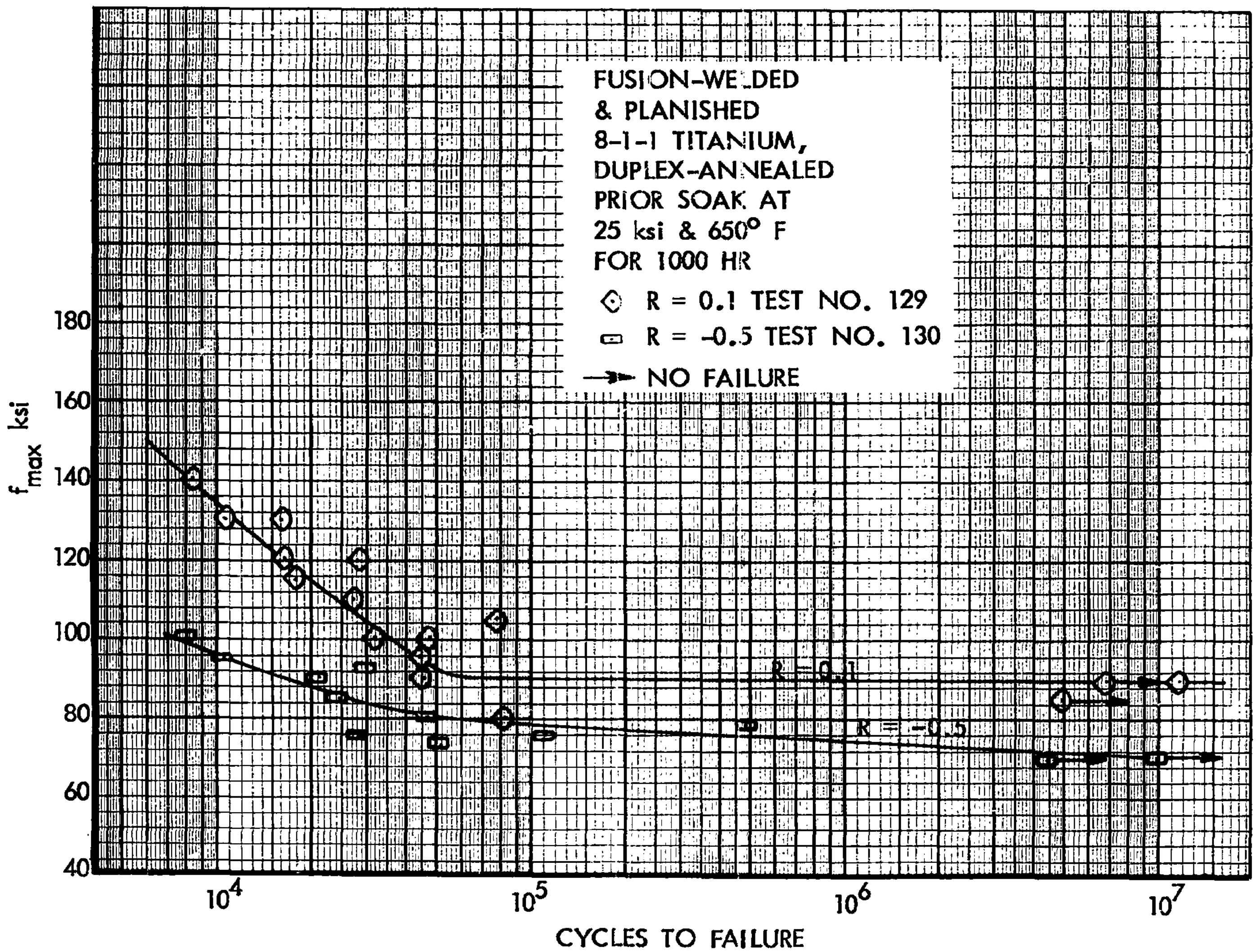


Figure 100. S-N Curves at Room Temperature, Fusion-Welded 8-1-1 Titanium, R = Constant

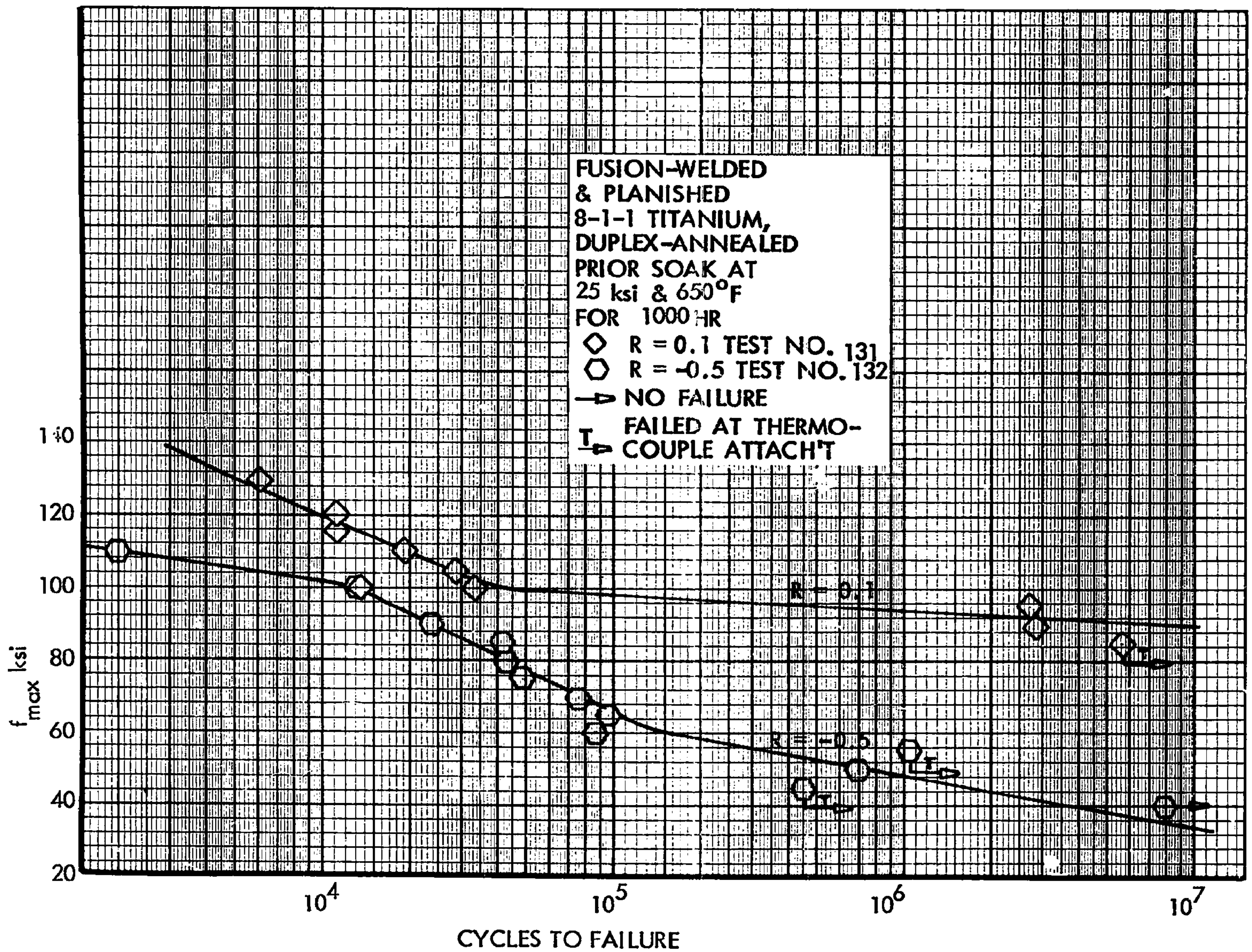


Figure 101. S-N Curves at 400°F, Fusion-Welded 8-1-1 Titanium, R = Constant

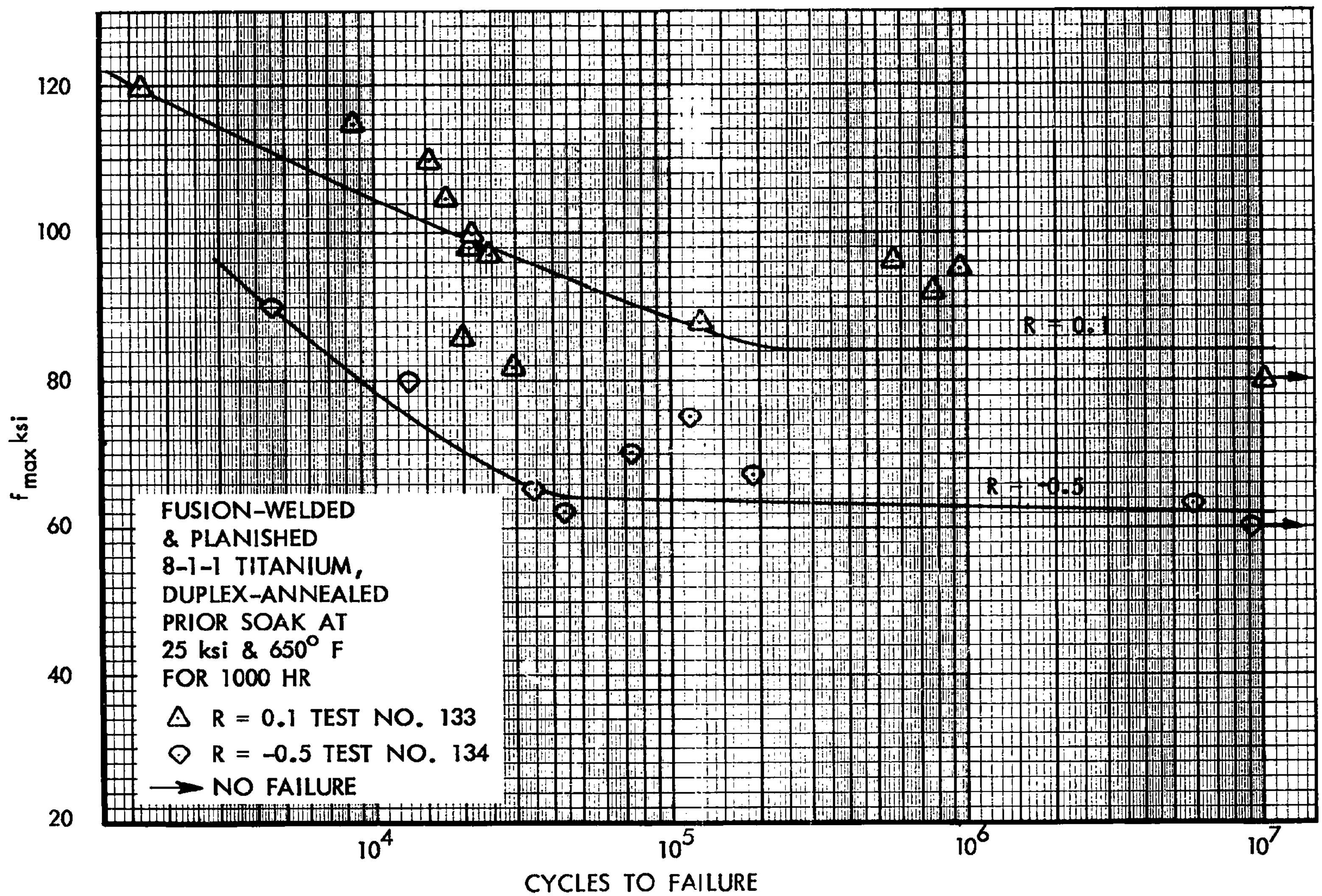


Figure 102. S-N Curves at 650°F, Fusion-Welded 8-1-1 Titanium, R = Constant

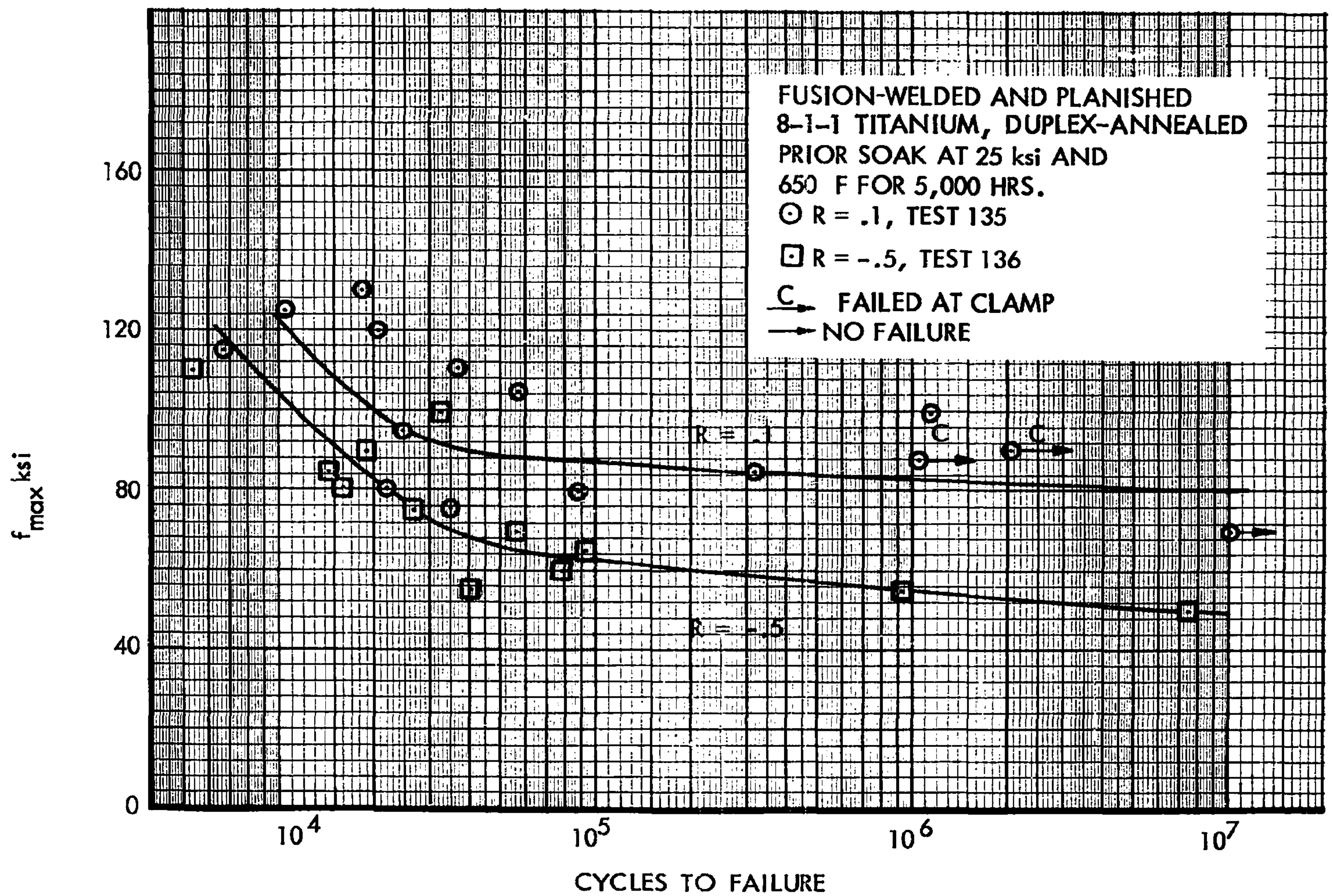


Figure 103. S-N Curves at Room Temperature, Fusion-Welded 8-1-1 Titanium, R = Constant

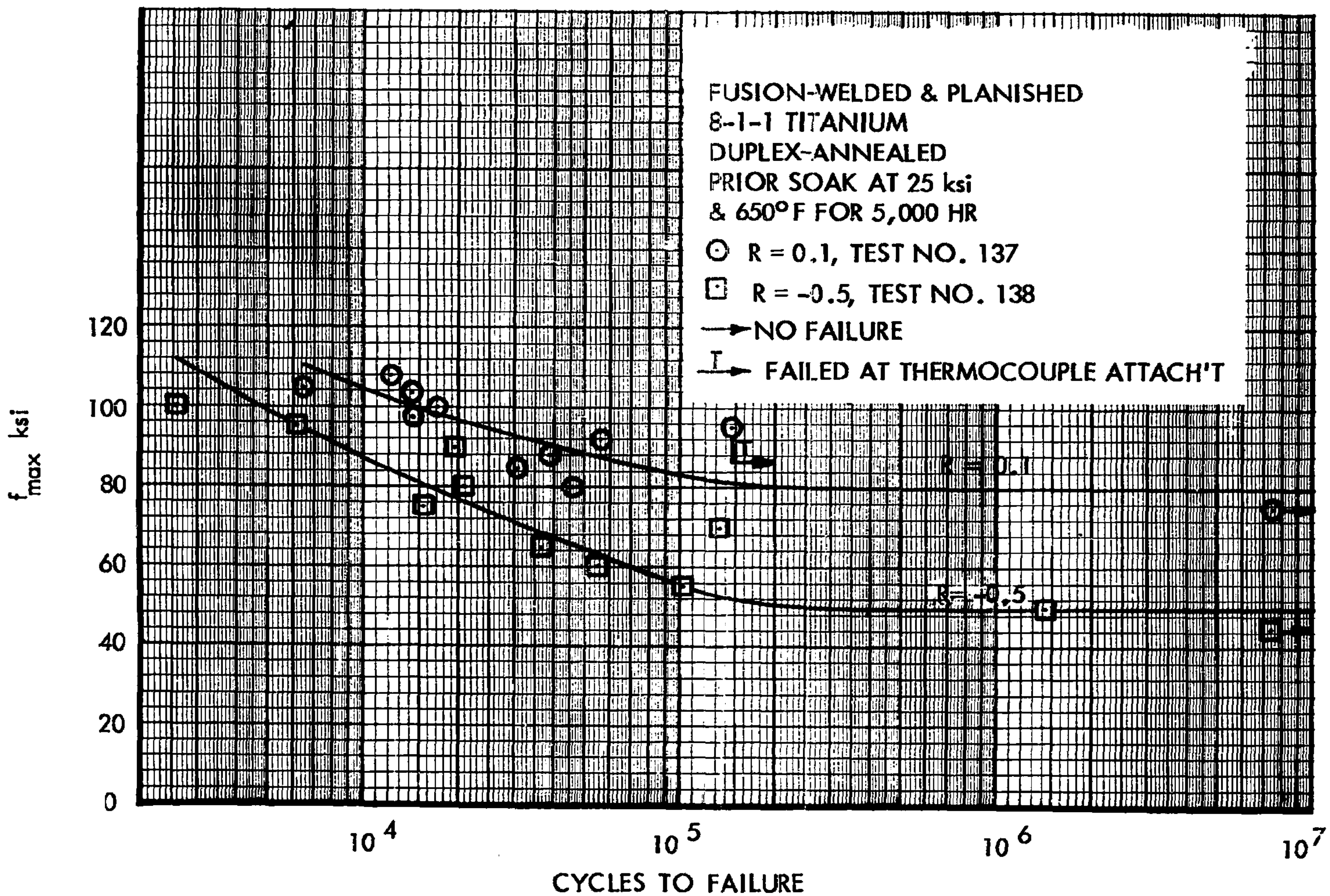


Figure 104. S-N Curves at 400°F, Fusion-Welded 8-1-1 Titanium, R = Constant

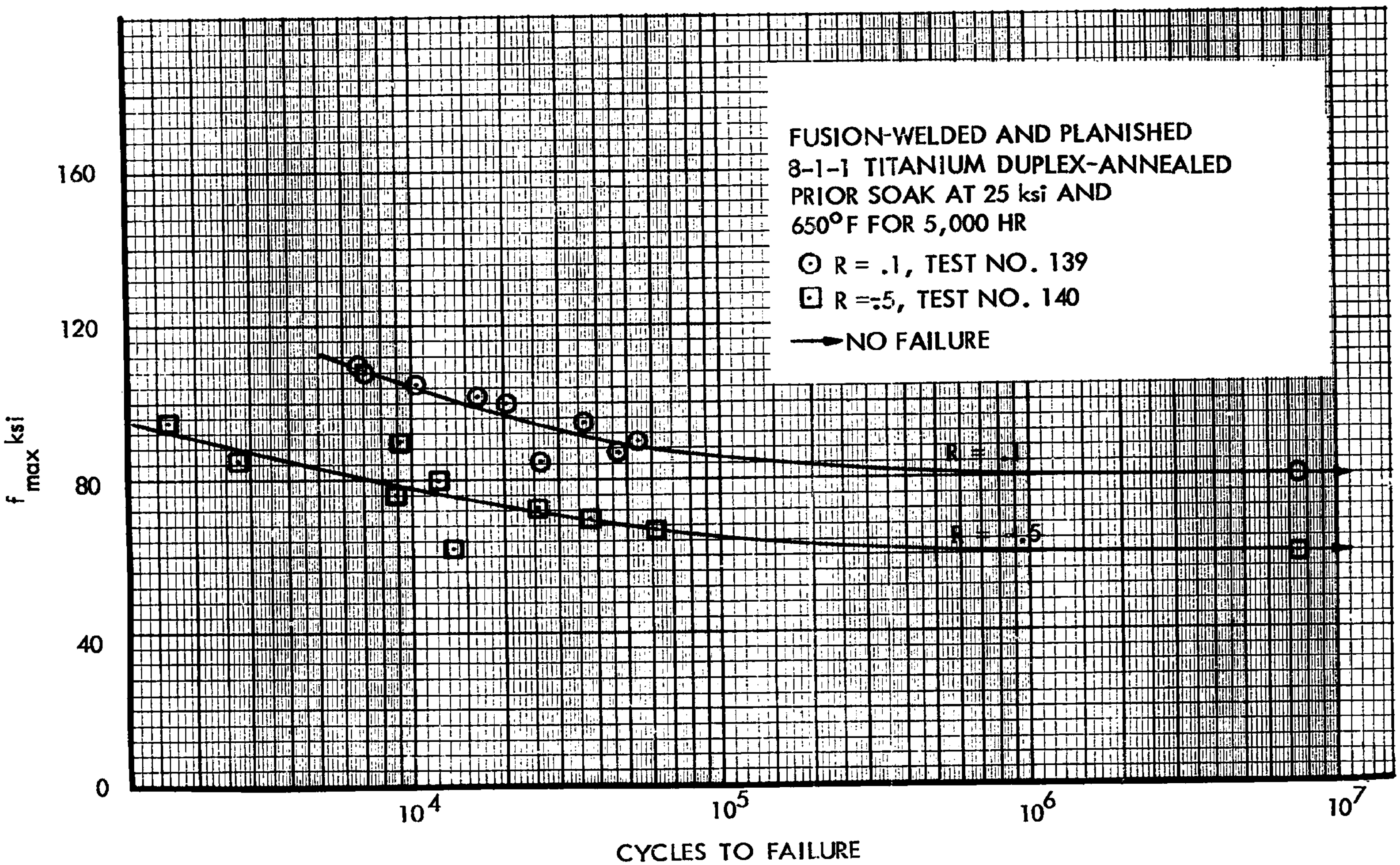


Figure 105. S-N Curves at 650°F, Fusion-Welded 8-1-1 Titanium, R = Constant

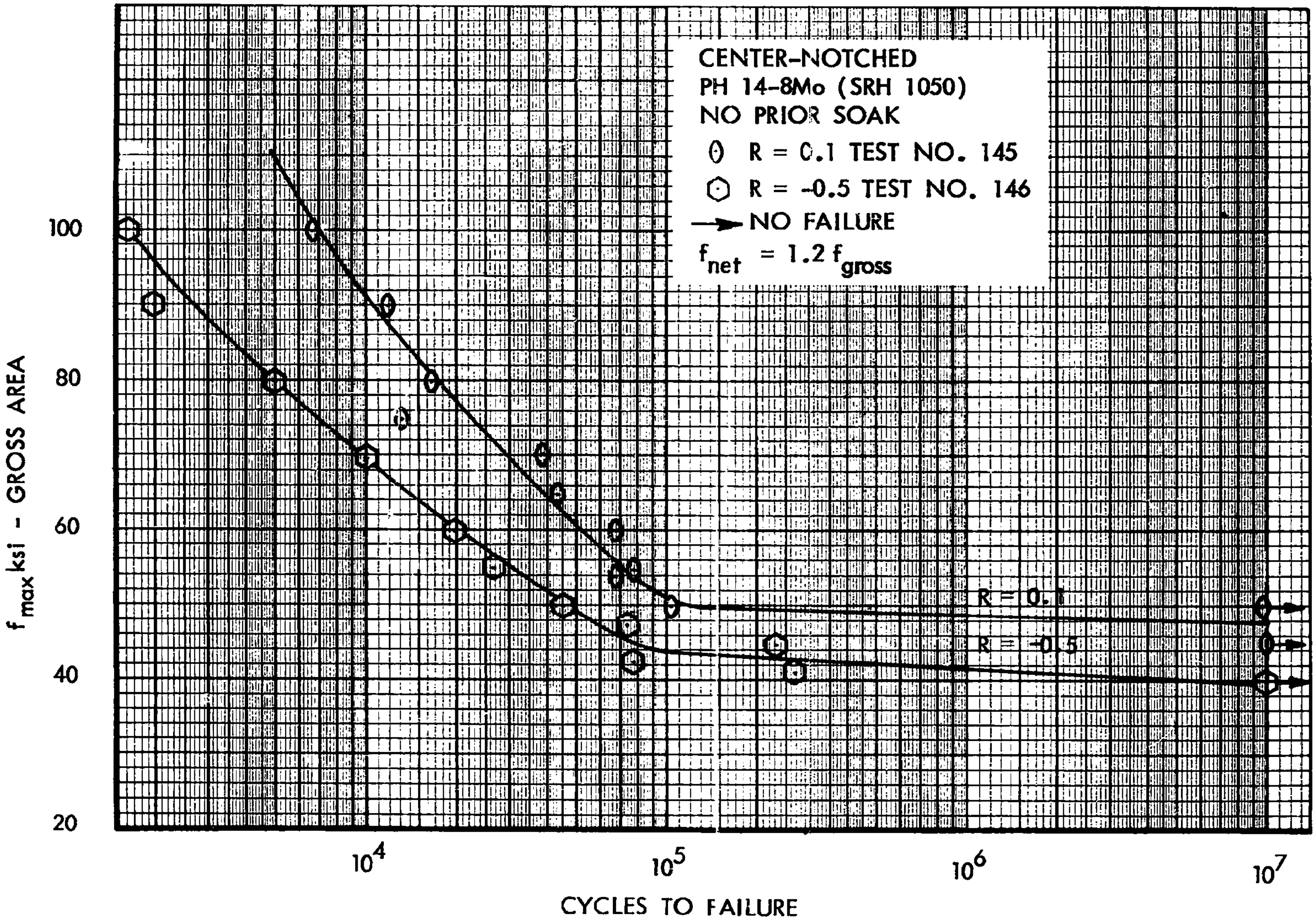


Figure 106. S-N Curves at Room Temperature, Center-Notched PH14-8Mo, R = Constant

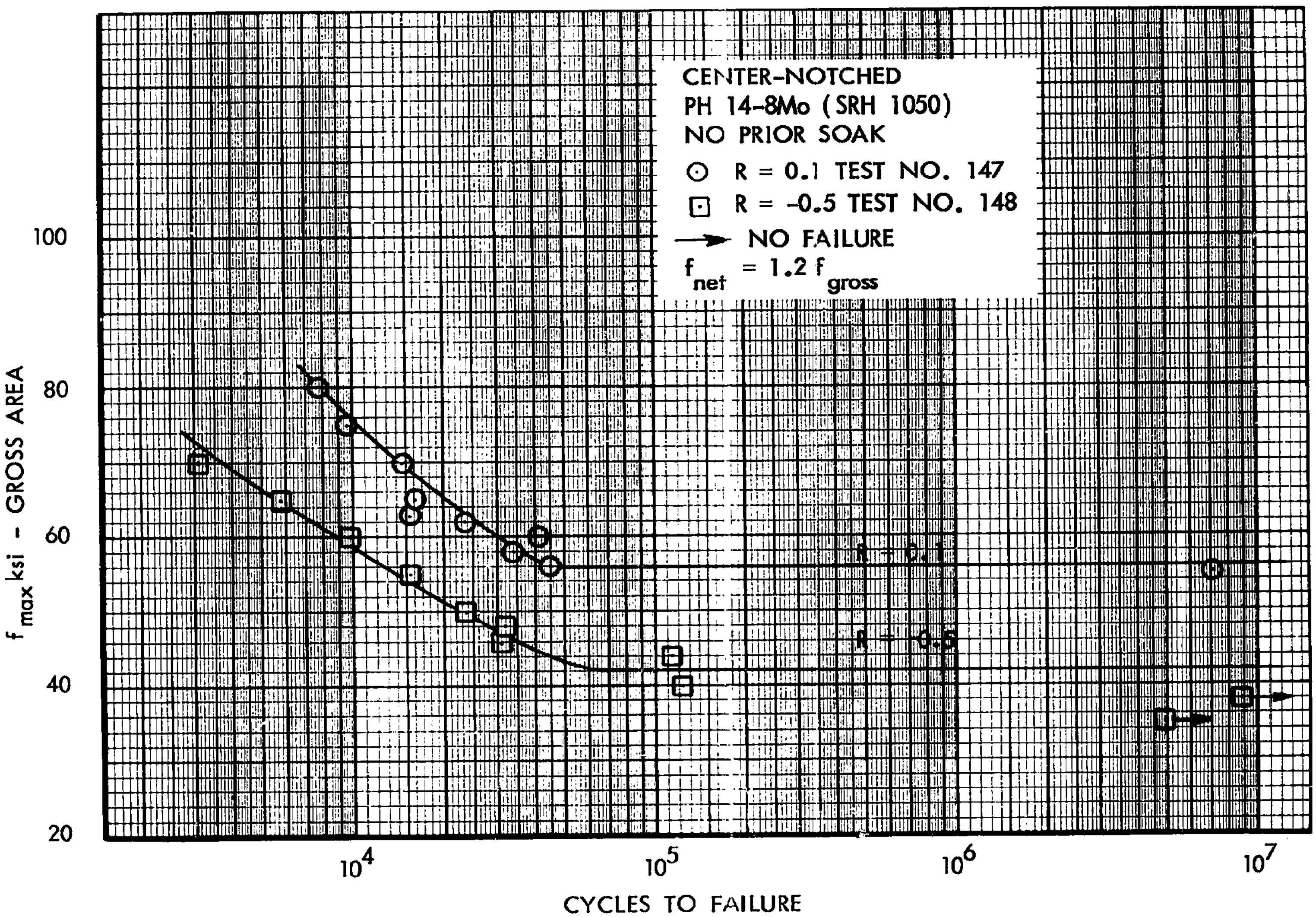


Figure 107. S-N Curves at 400°F, Center-Notched PH14-8Mo, R = Constant

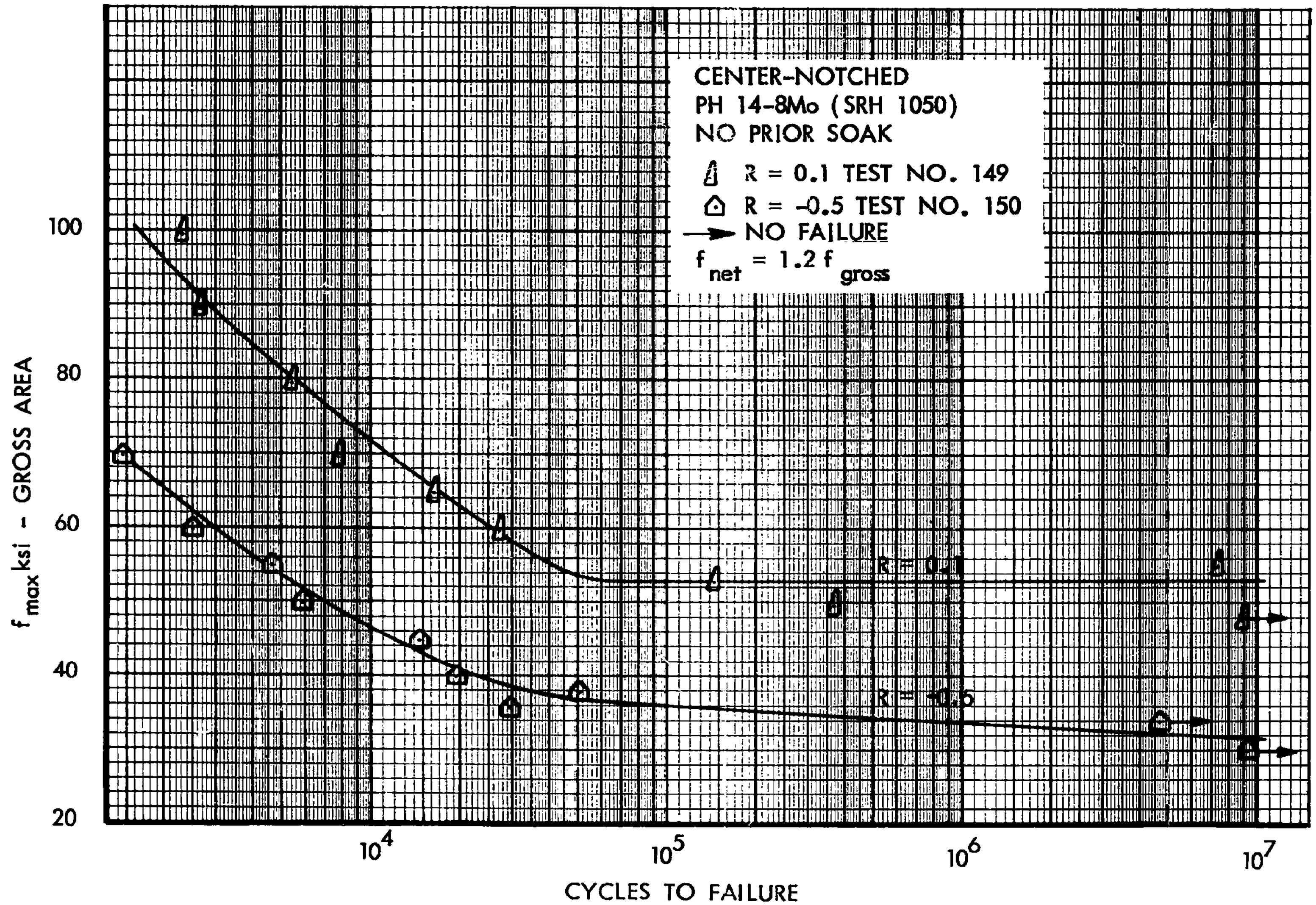


Figure 108. S-N Curves at 650°F, Center-Notched PH14-8Mo, R = Constant

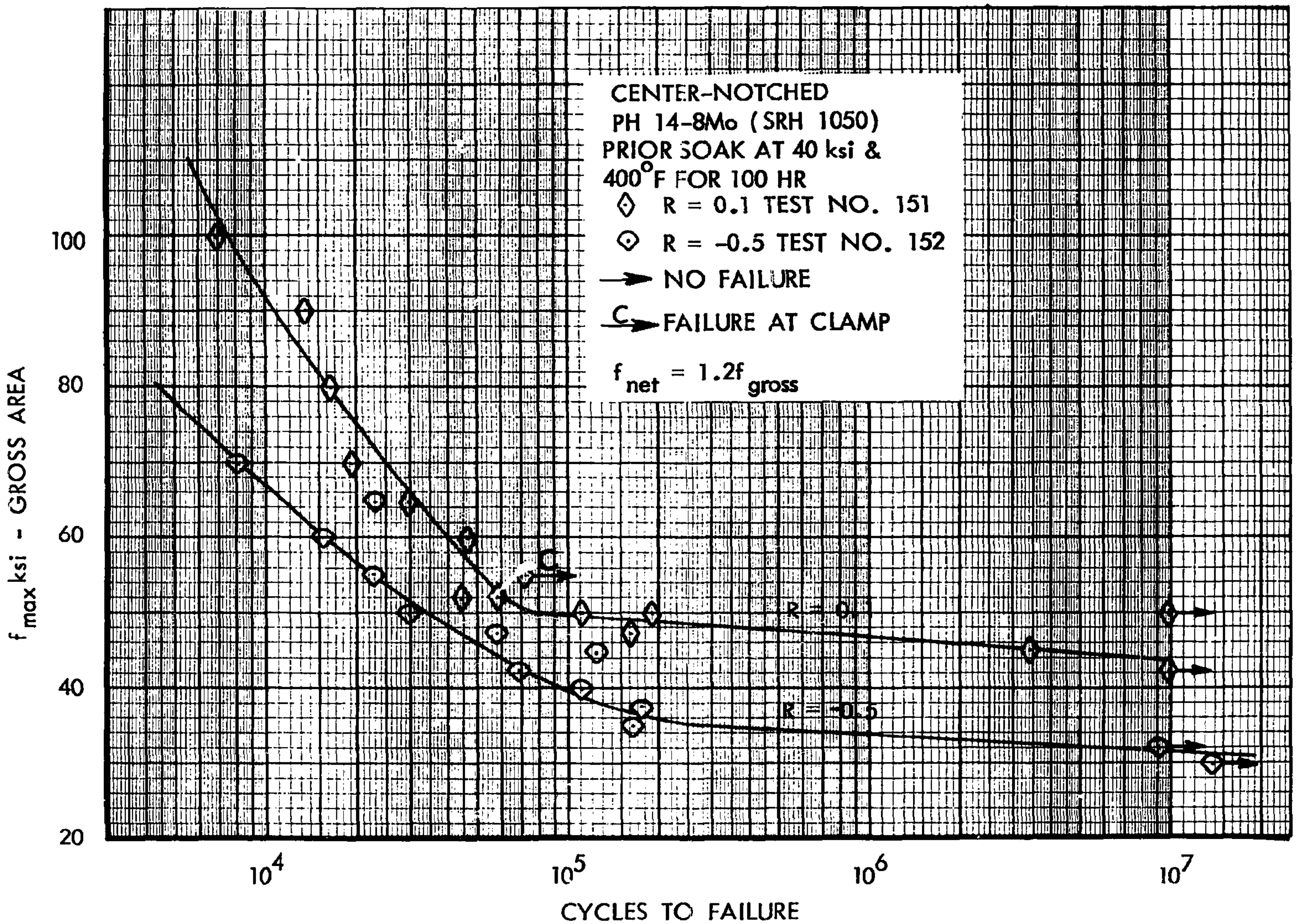


Figure 109. S-N Curves at Room Temperature, Center-Notched PH14-8Mo, R = Constant

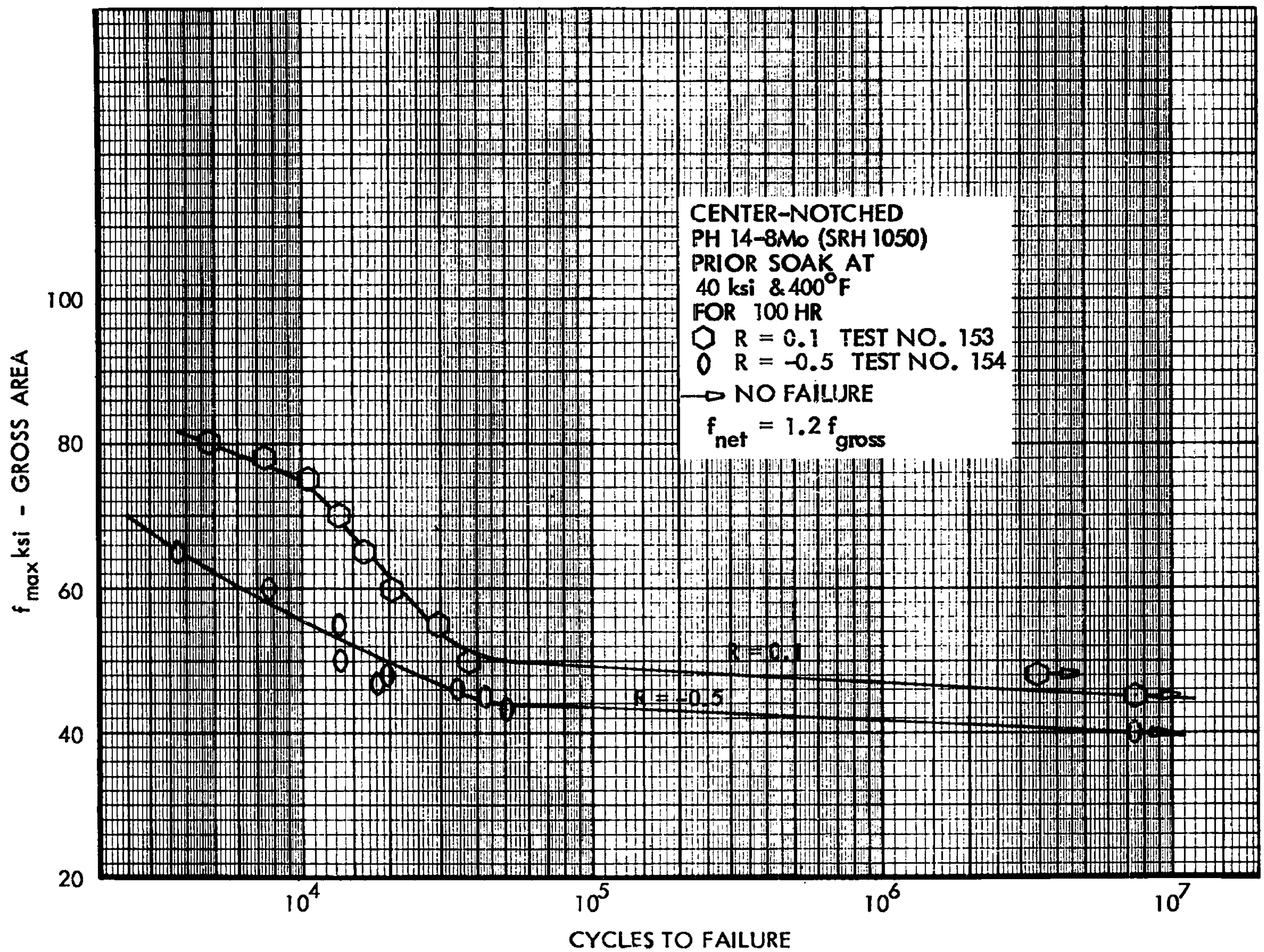


Figure 110. S-N Curves at 400°F, Center-Notched PH14-8Mo, R = Constant

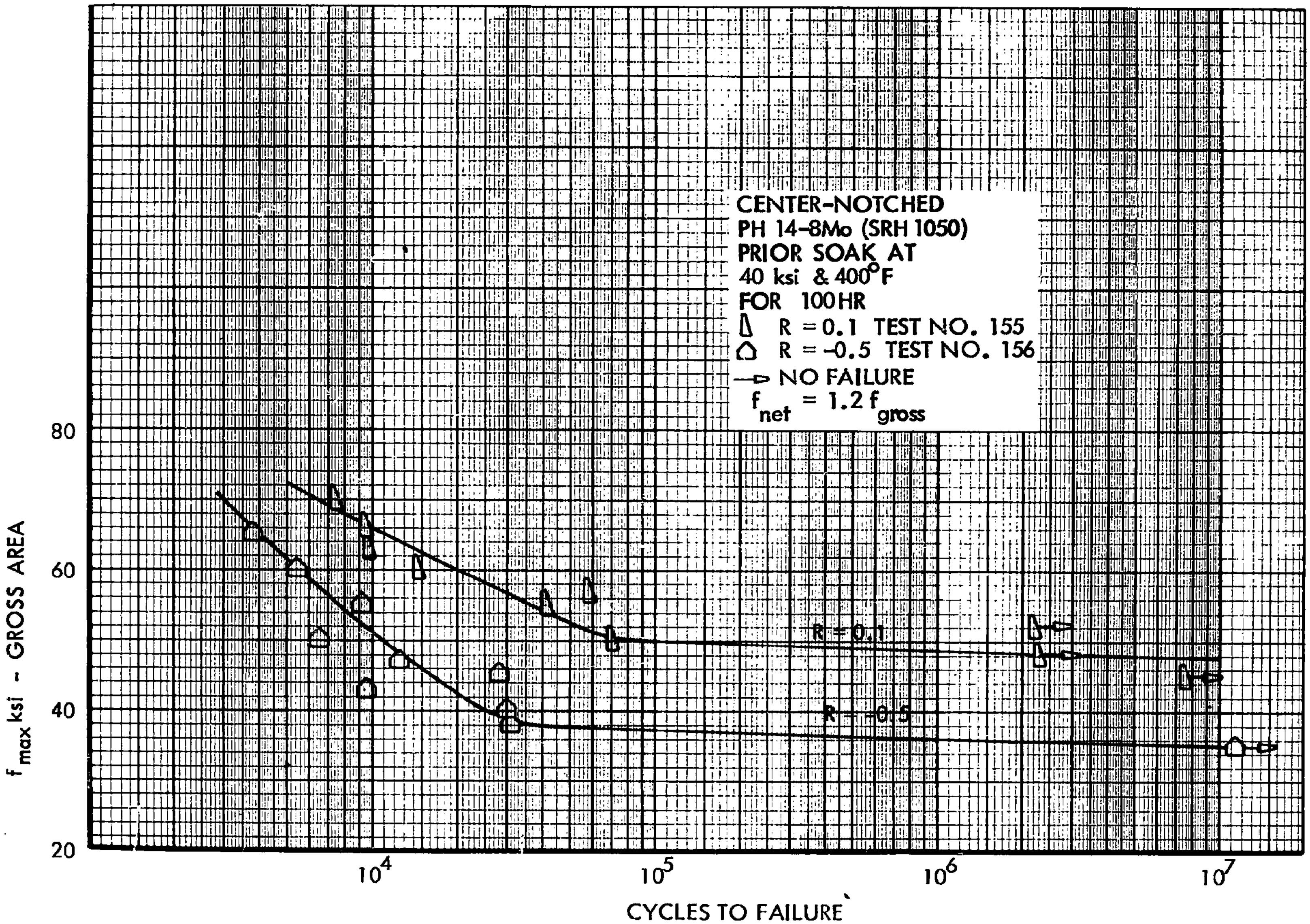


Figure III. S-N Curves at 650°F, Center-Notched PH14-8Mo, R = Constant

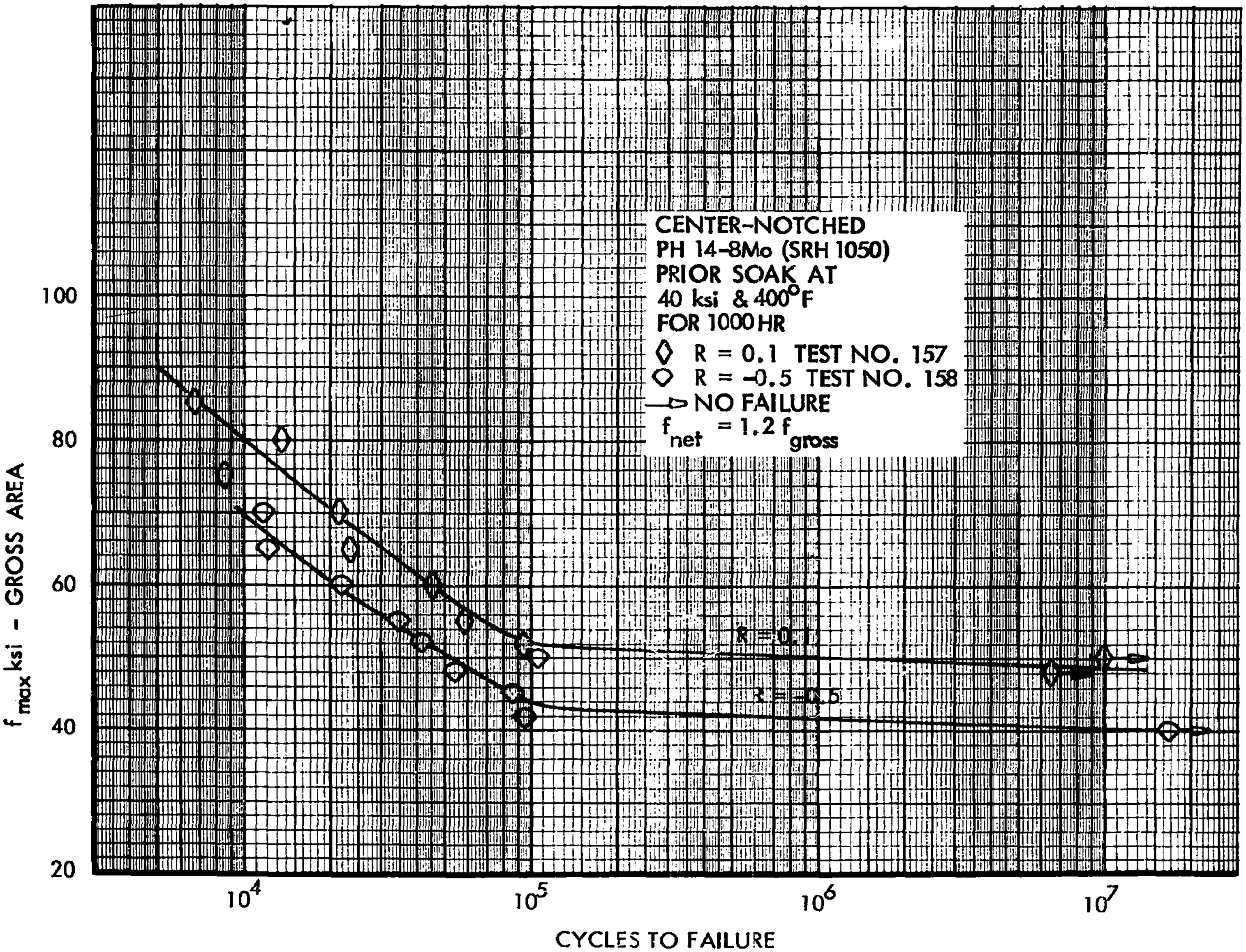


Figure 112. S-N Curves at Room Temperature, Center-Notched PH14-8Mo, R = Constant

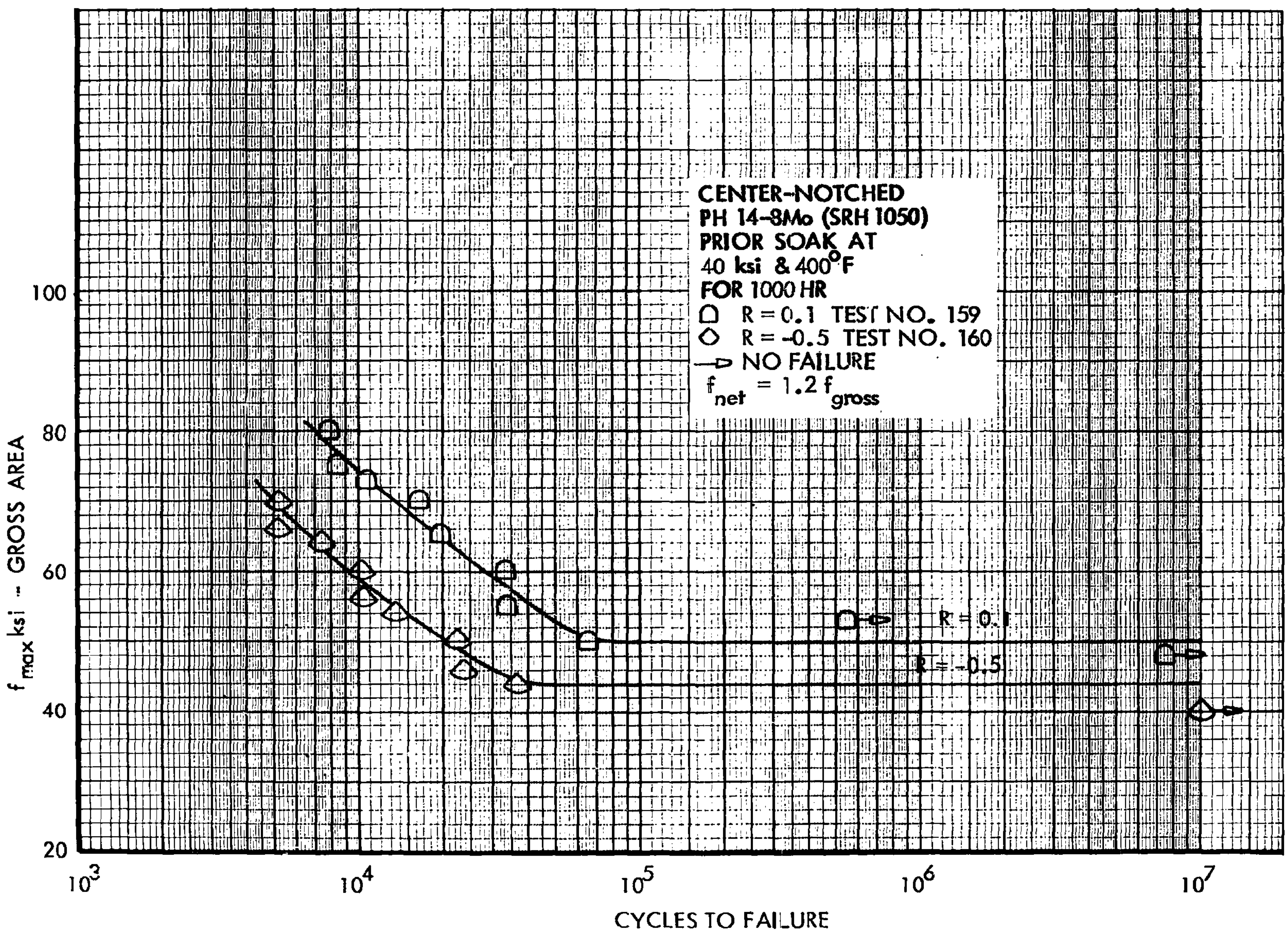


Figure 113. S-N Curves at 400°F, Center-Notched PH14-8Mo, R = Constant

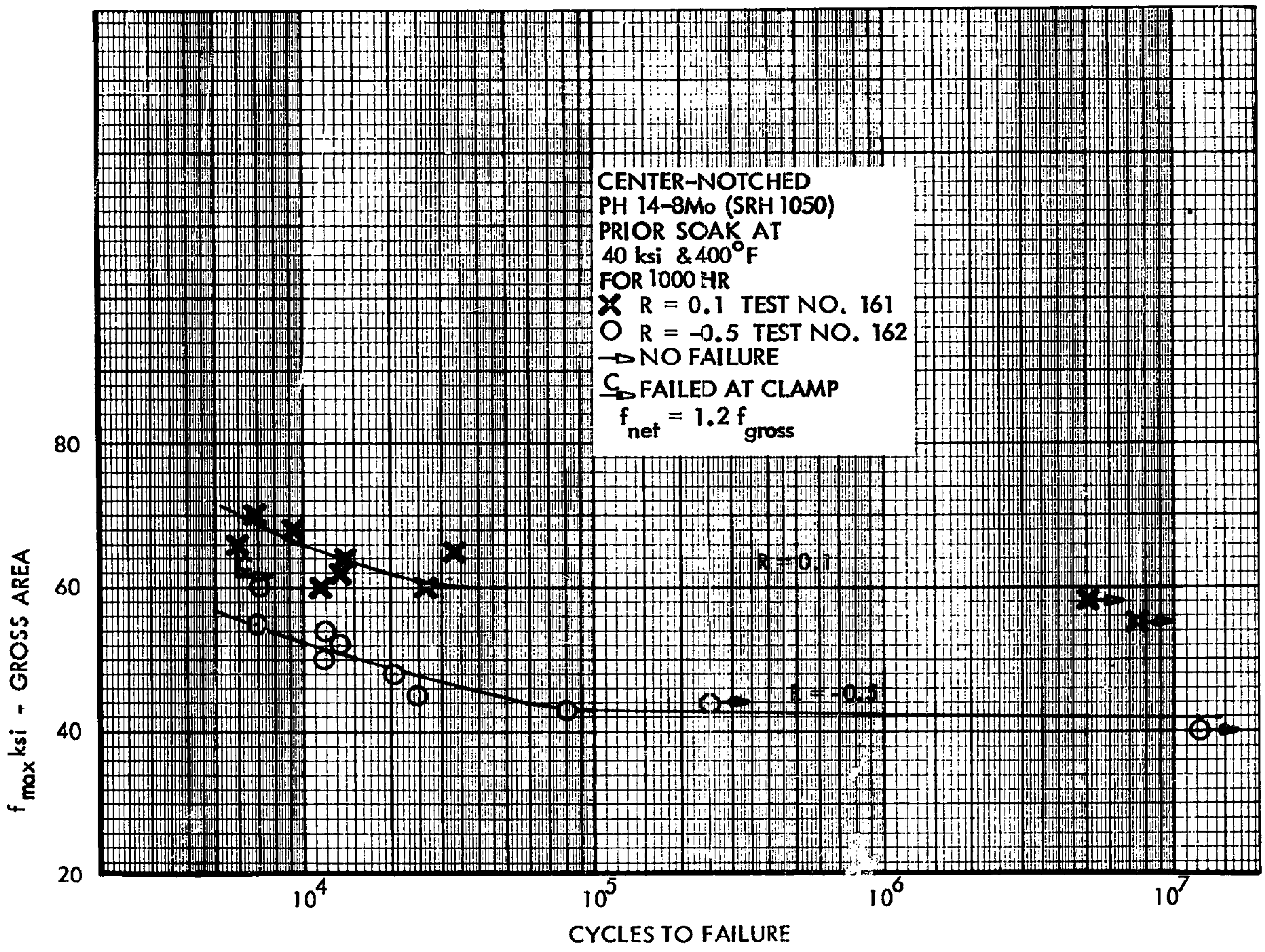


Figure 114. S-N Curves at 650°F, Center-Notched PH14-8Mo, R = Constant

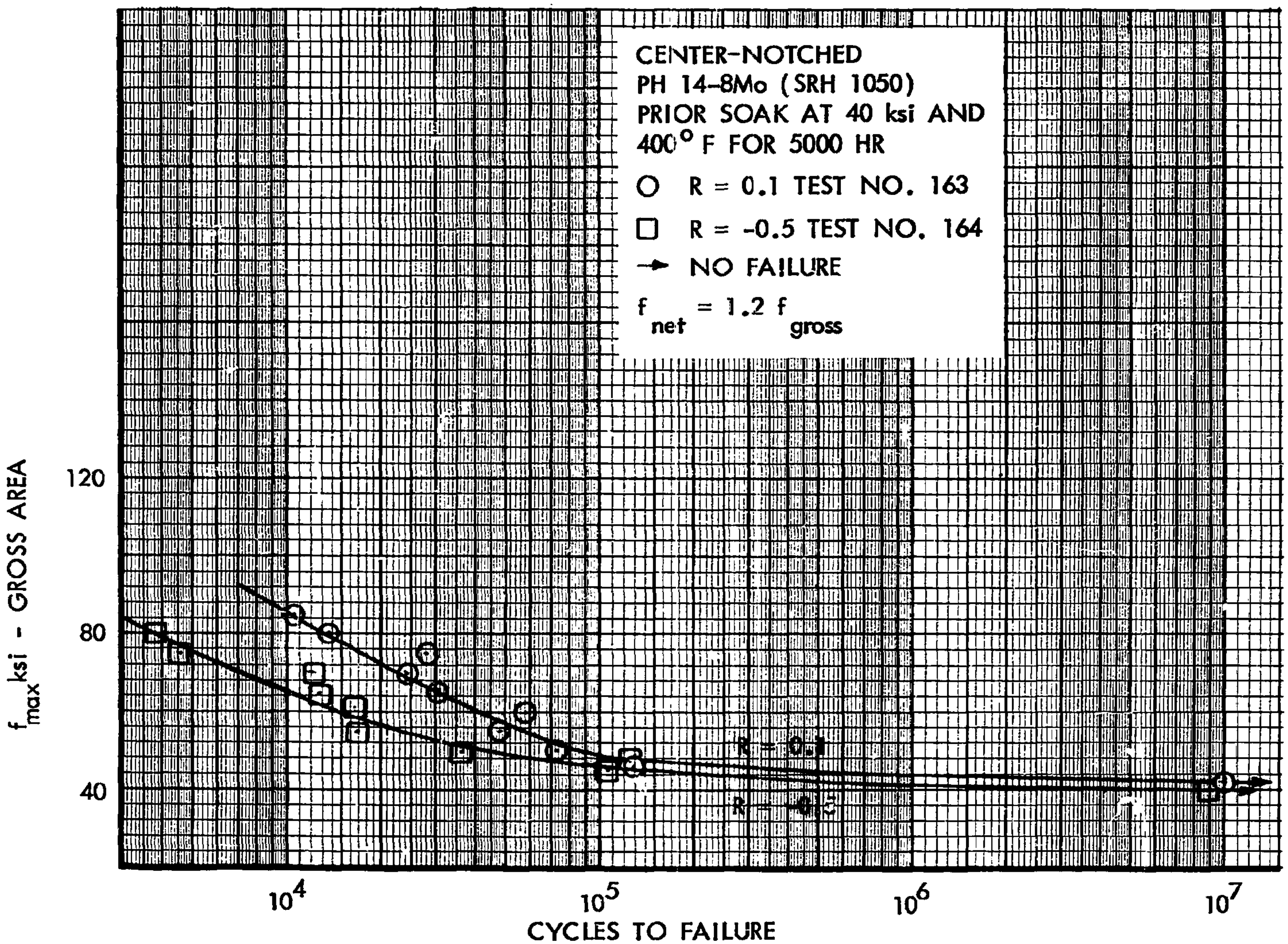


Figure 115. S-N Curves at Room Temperature, Center-Notched PH14-8Mo, R = Constant

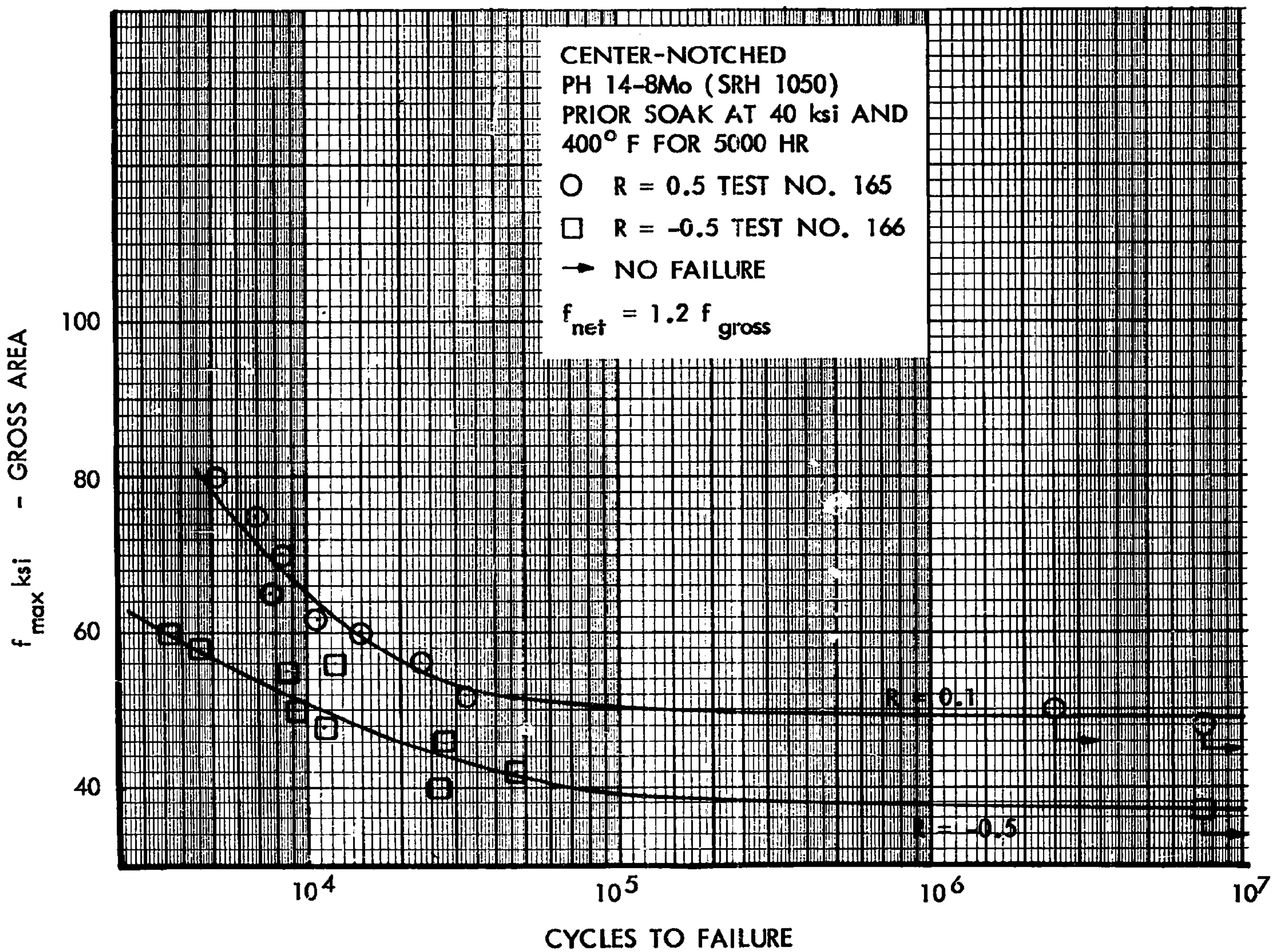


Figure 116. S-N Curves at 400°F, Center-Notched PH14-8Mo, R = Constant

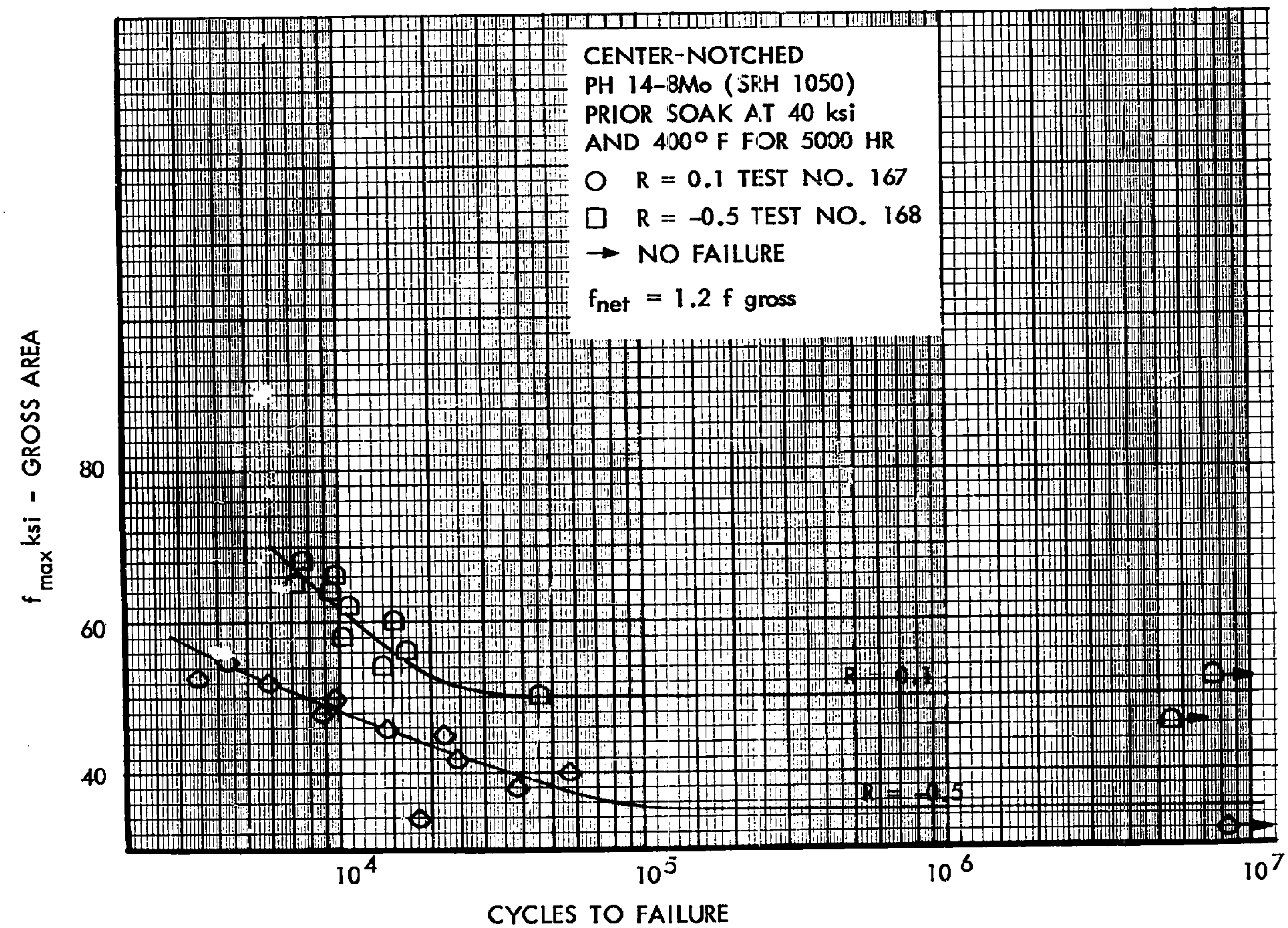


Figure 117. S-N Curves at 650°F, Center-Notched PH14-8Mo, R = Constant

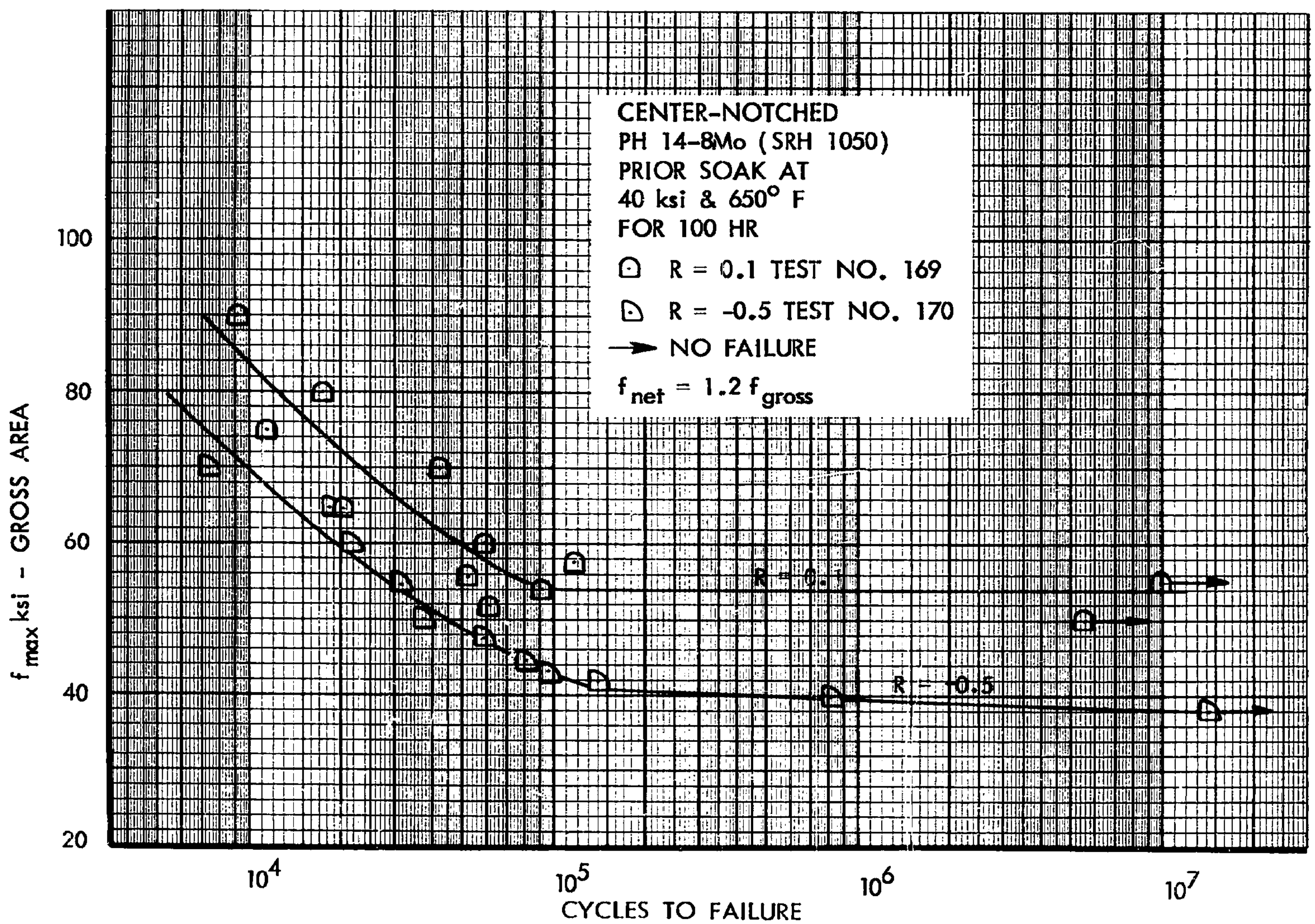


Figure 118. S-N Curves at Room Temperature, Center-Notched PH14-8Mo, R = Constant

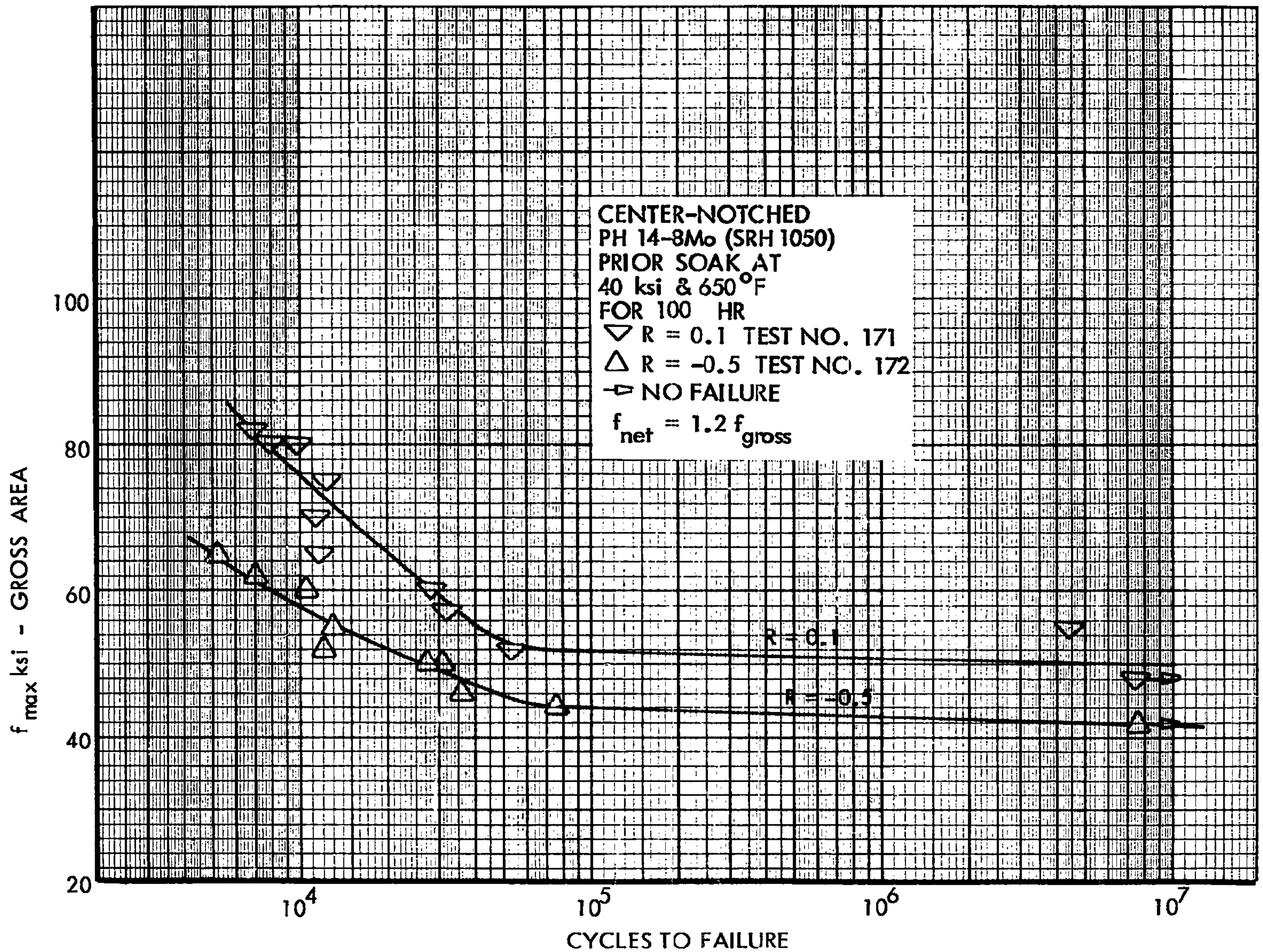


Figure 119. S-N Curves at 400°F, Center-Notched PH14-8Mo, R = Constant

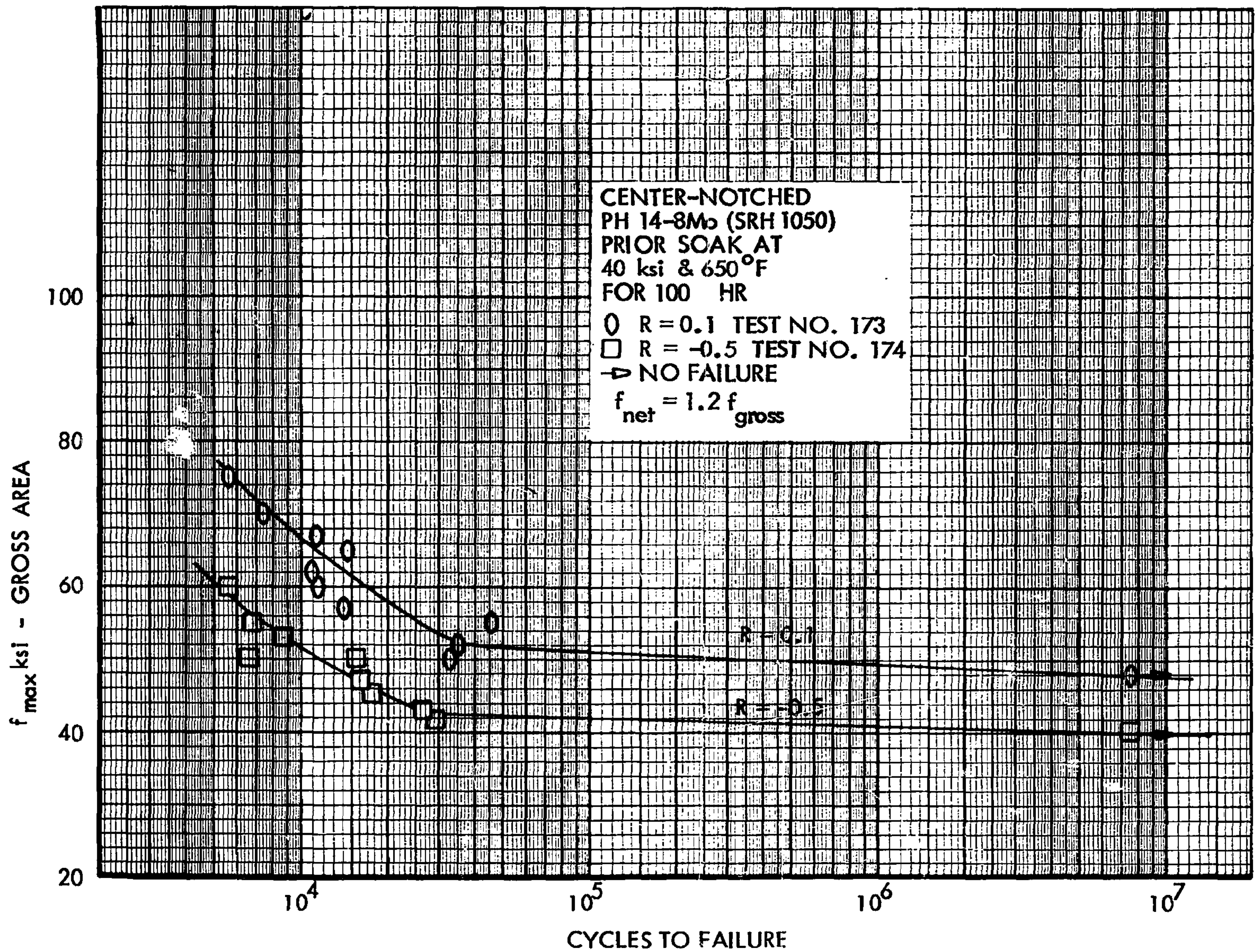


Figure 120. S-N Curves at 650°F, Center-Notched PH14-8Mo, R = Constant

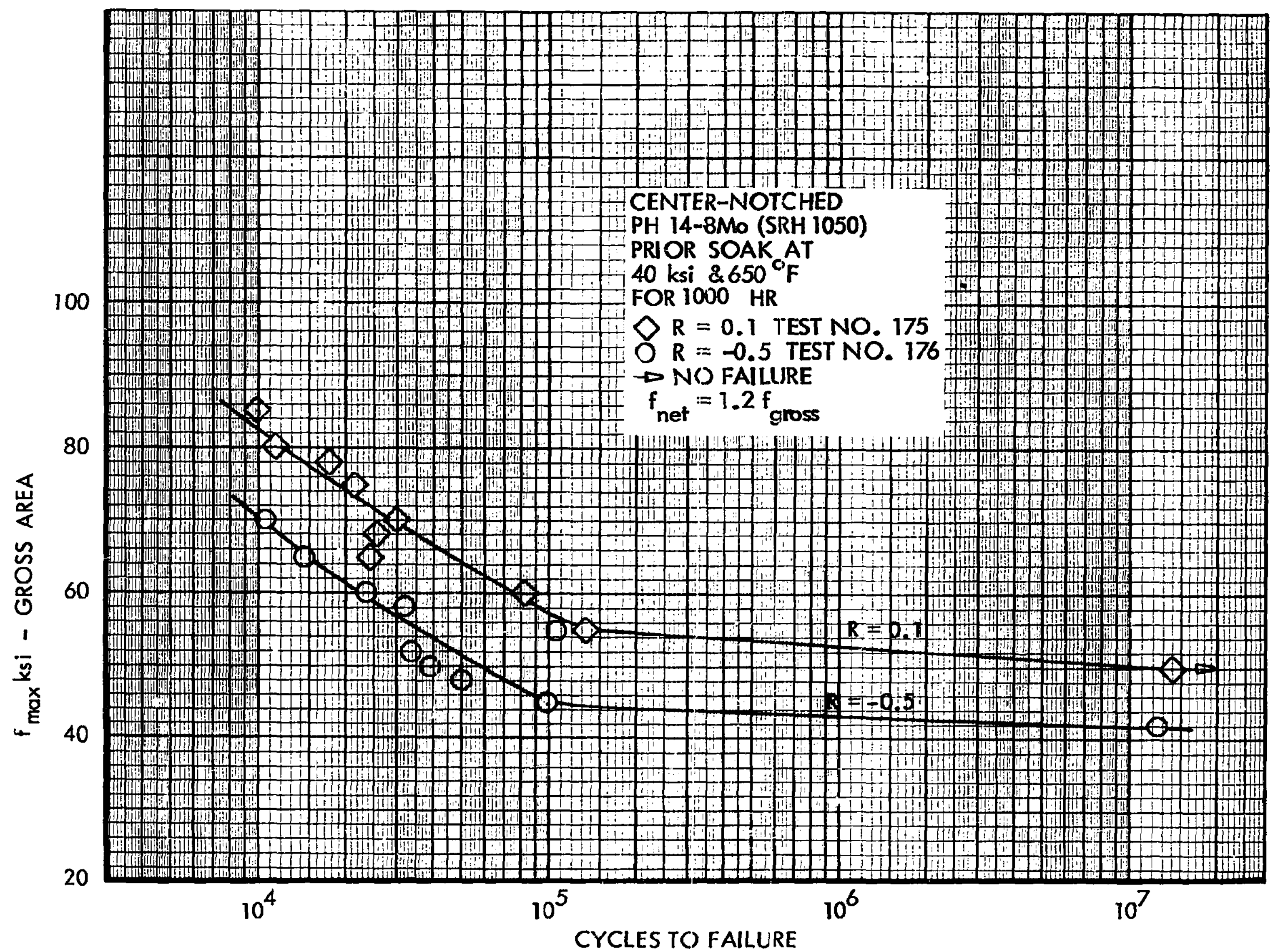


Figure 121. S-N Curves at Room Temperature, Center-Notched PH14-8Mo, R = Constant

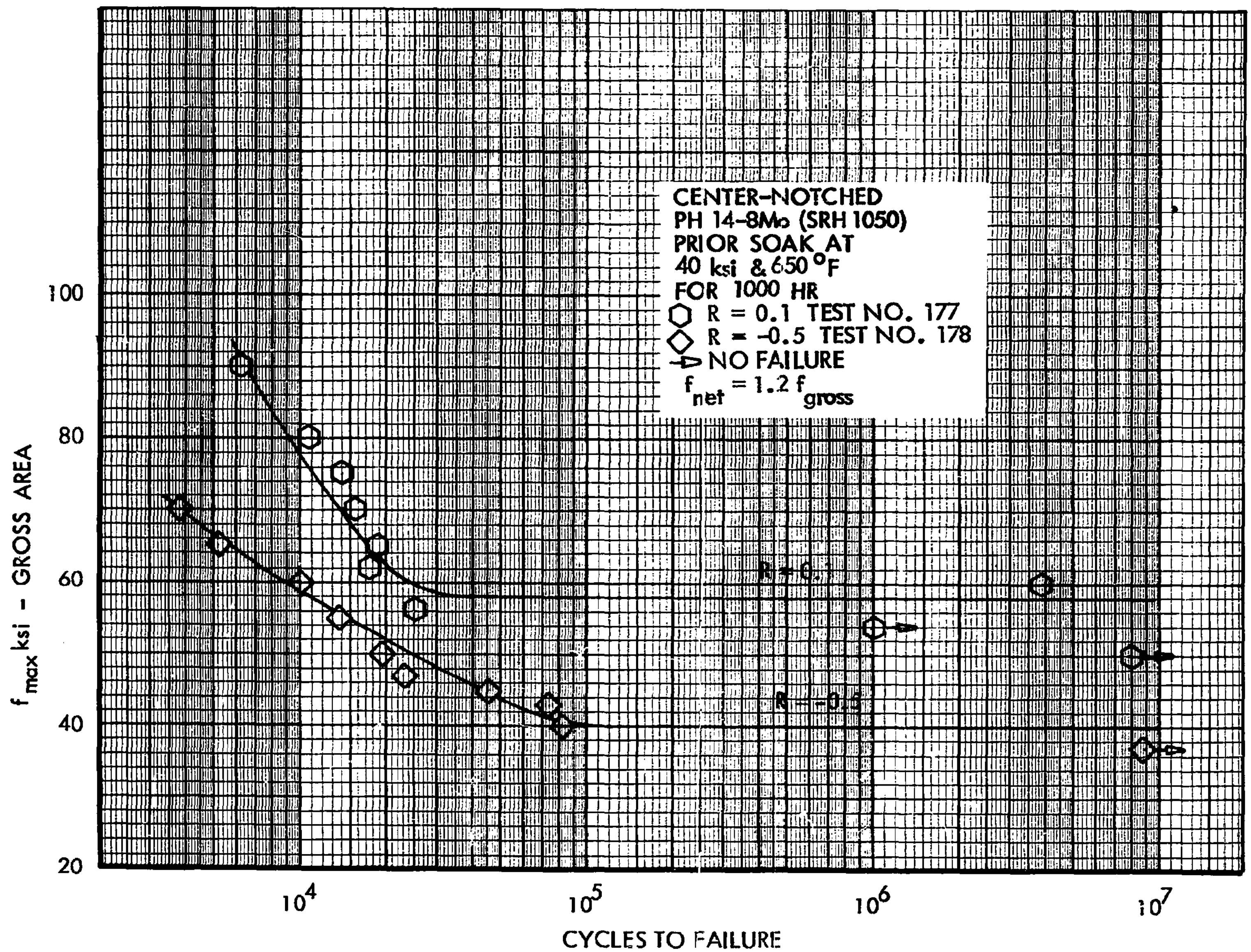


Figure 122. S-N Curves at 400°F, Center-Notched PH14-8Mo, R = Constant

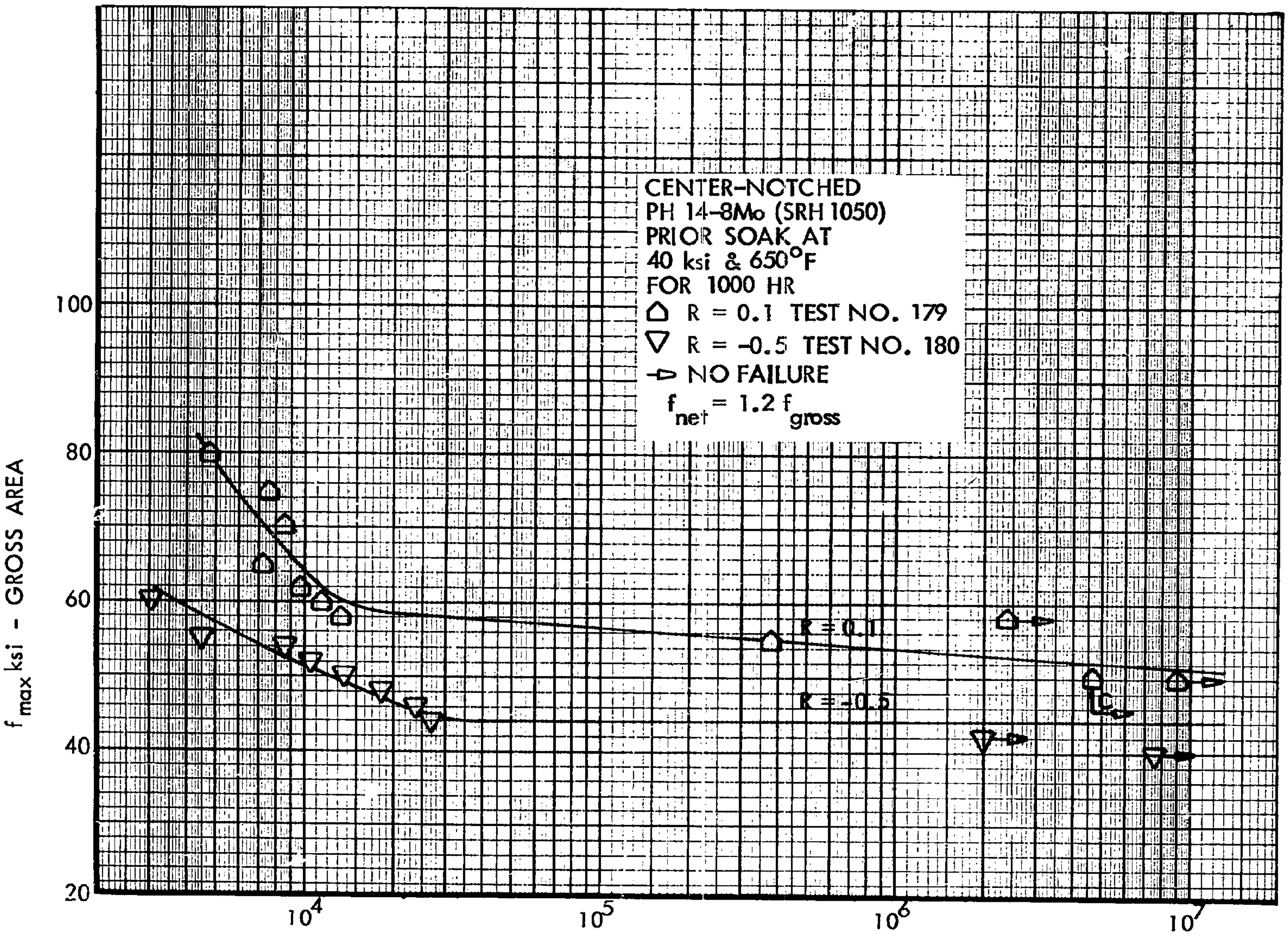


Figure 123. S-N Curves at 650°F, Center-Notched PH14-8Mo, R = Constant

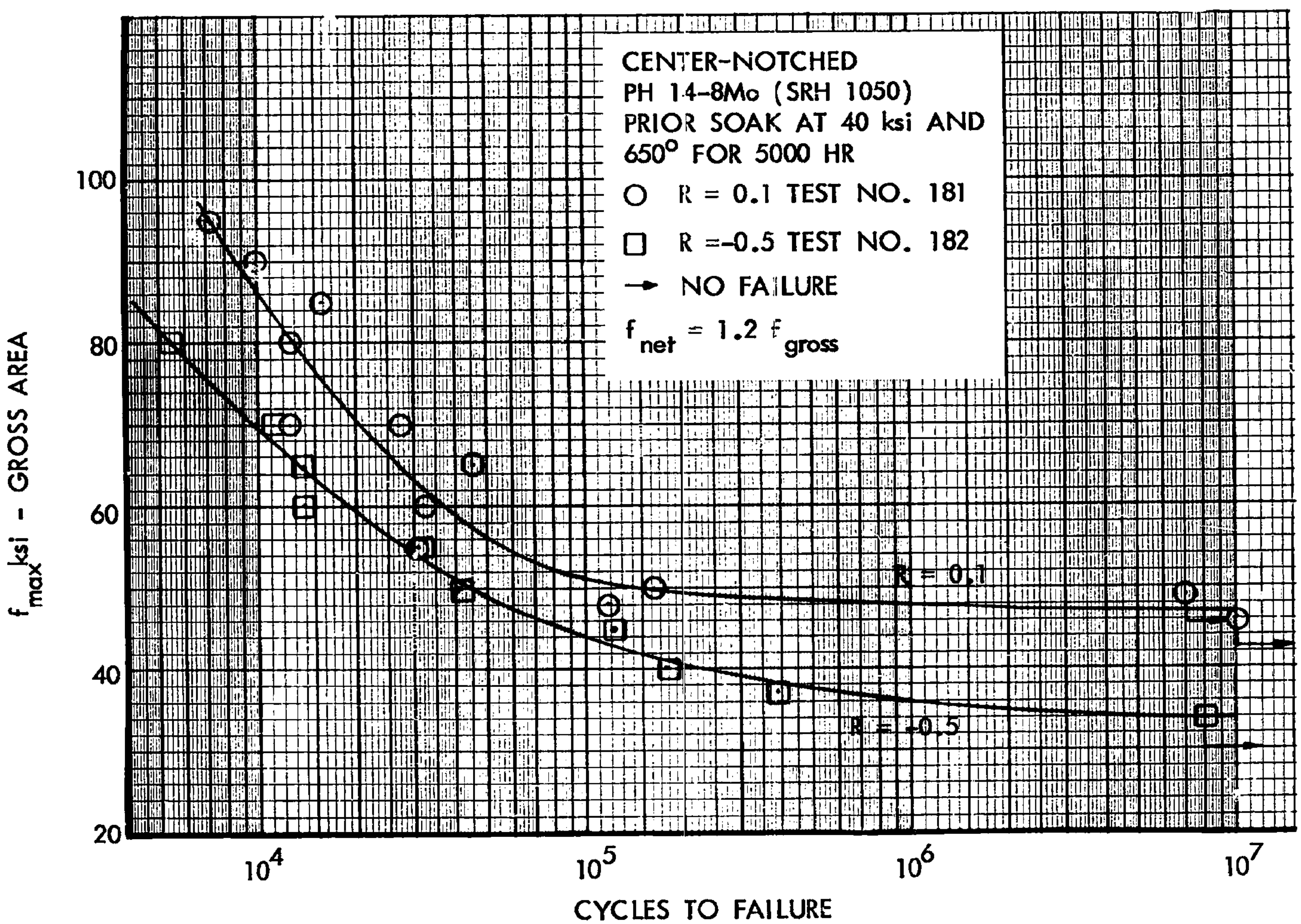


Figure 124. S-N Curves at Room Temperature, Center-Notched PH14-8Mo, R = Constant

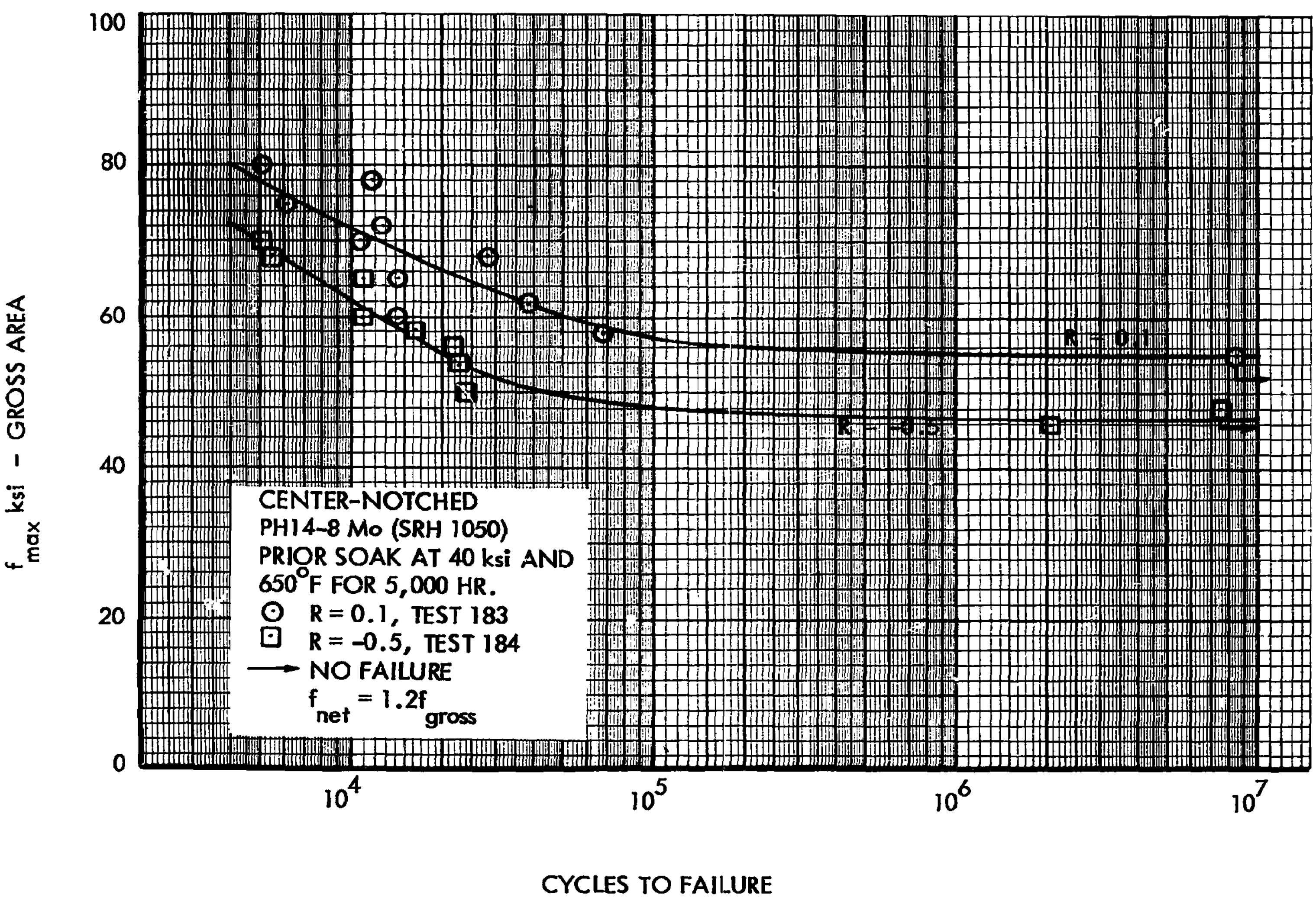


Figure 125. S-N Curves at 400°F, Center-Notched PH14-8Mo, R = Constant

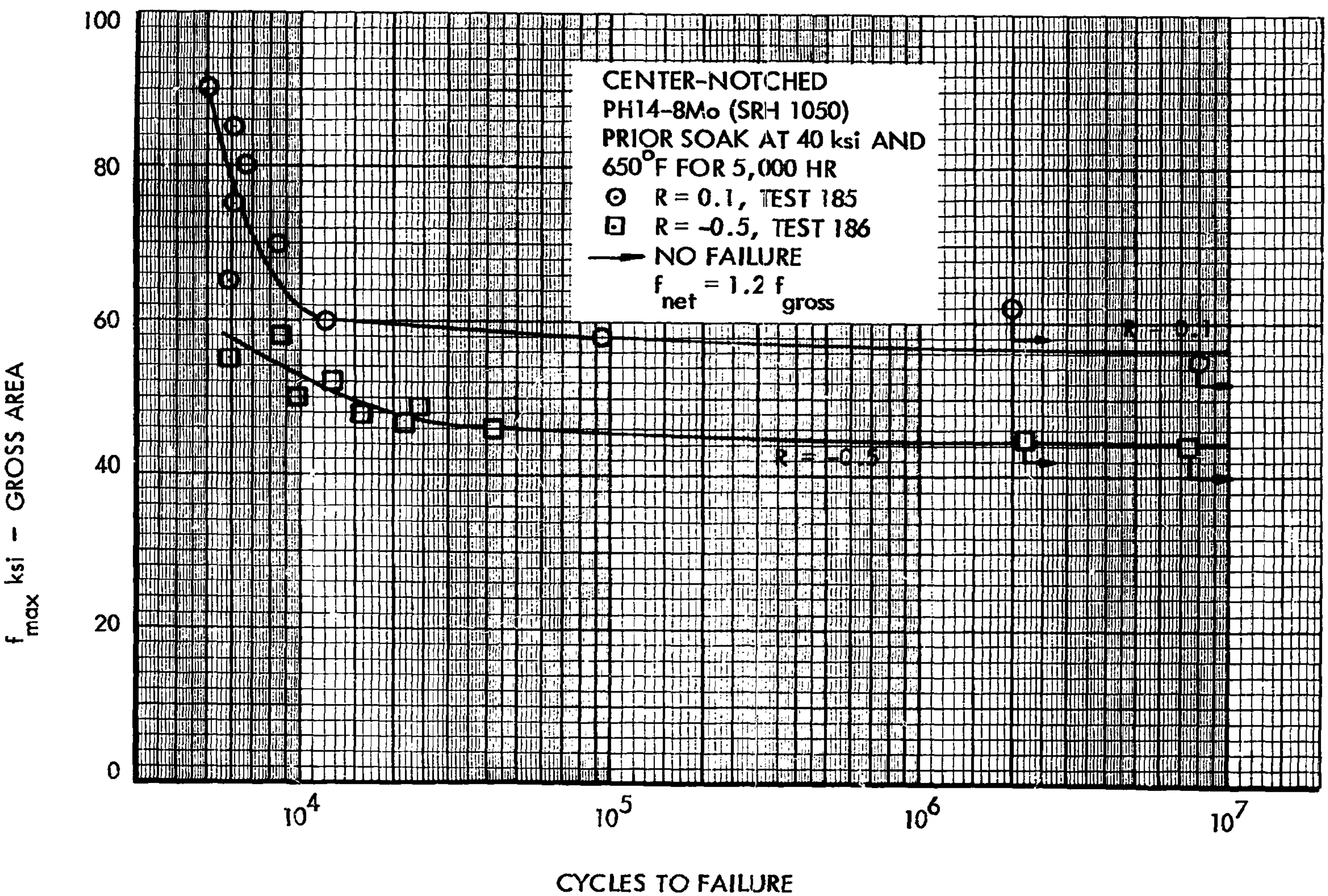


Figure 126. S-N Curves at 650°F, Center-Notched PH14-8Mo, R = Constant

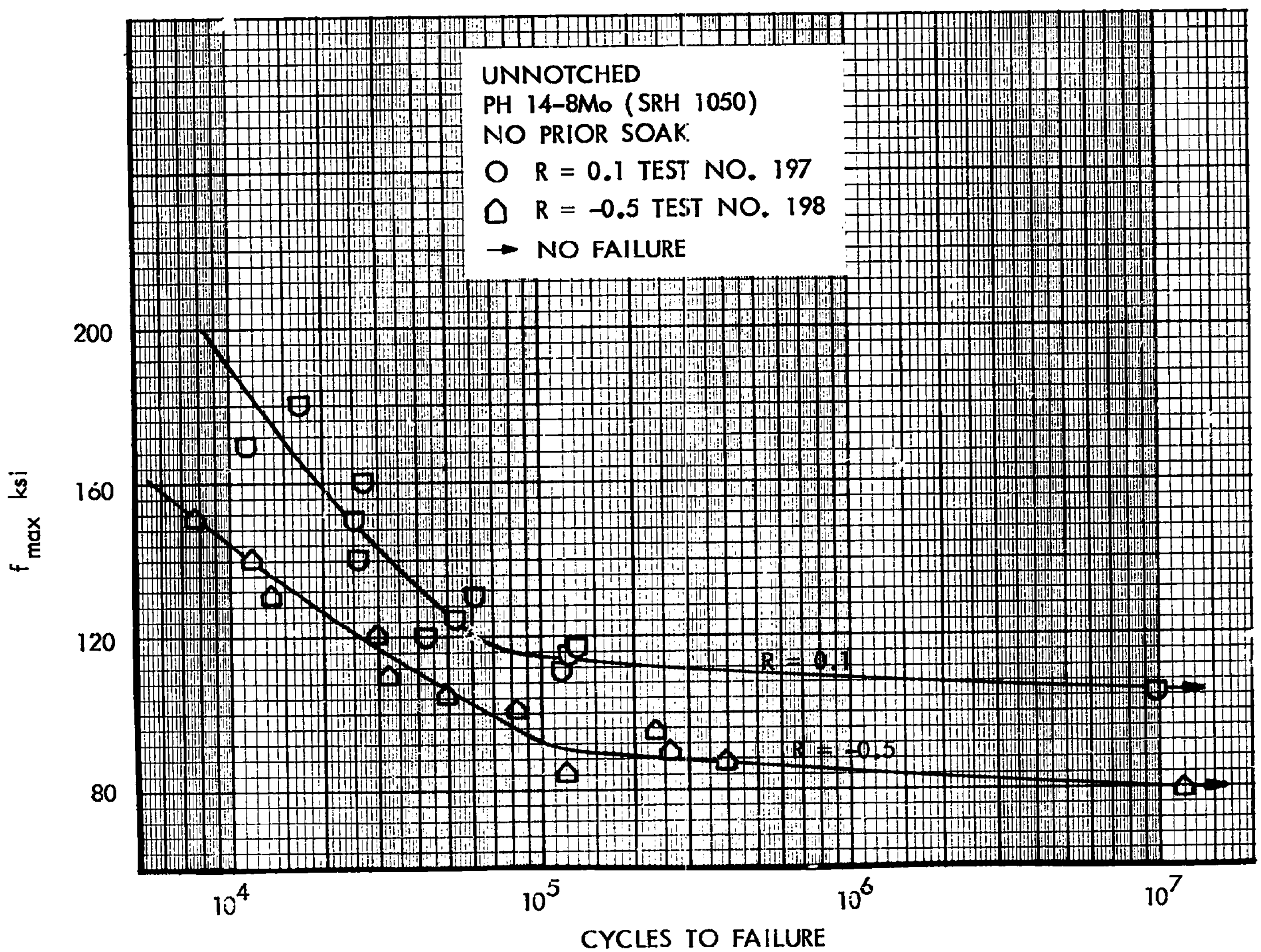


Figure 127. S-N Curves at Room Temperature, Unnotched PH14-8Mo, R = Constant

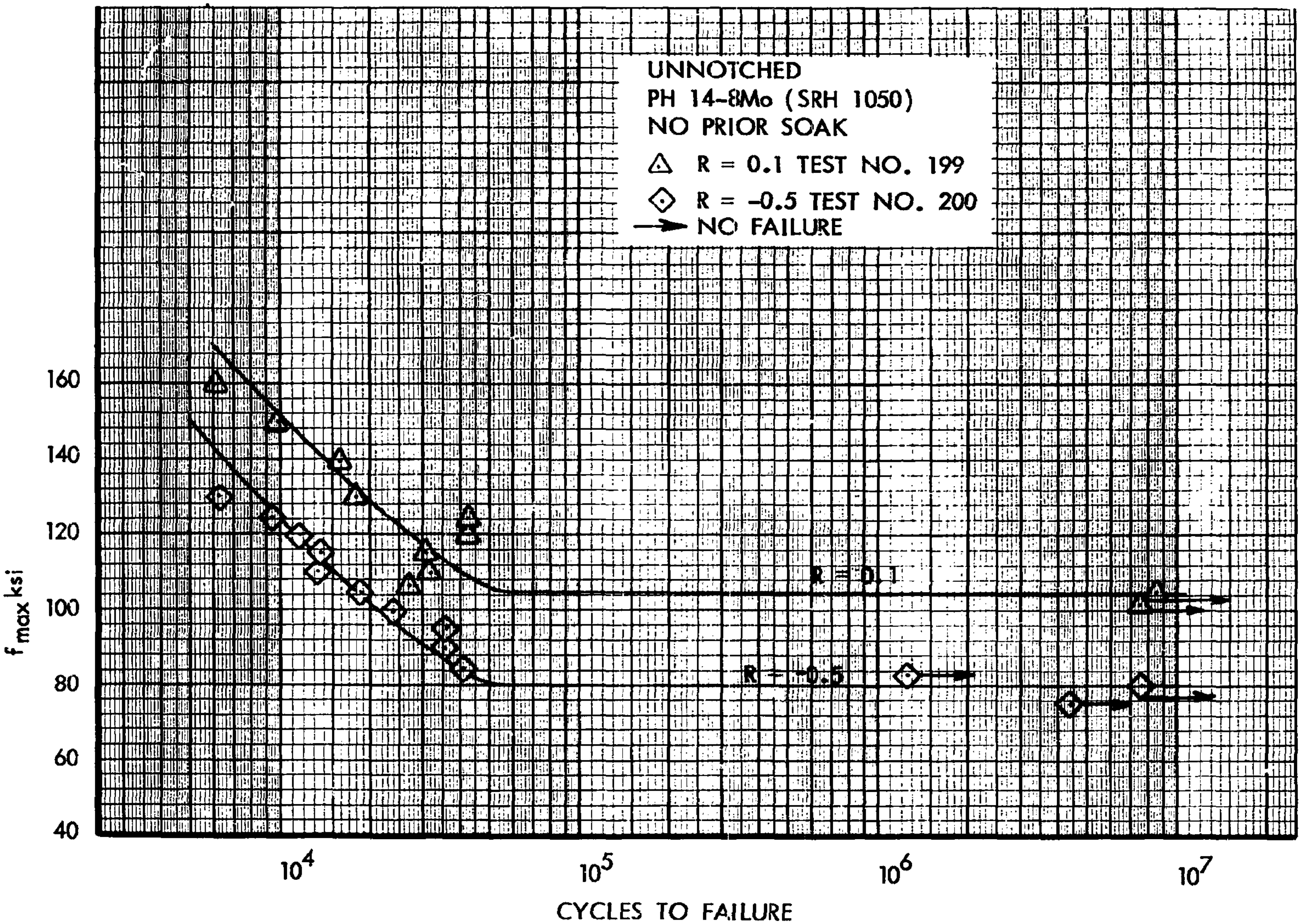


Figure 128. S-N Curves at 400°F, Unnotched PH14-8Mo, R = Constant

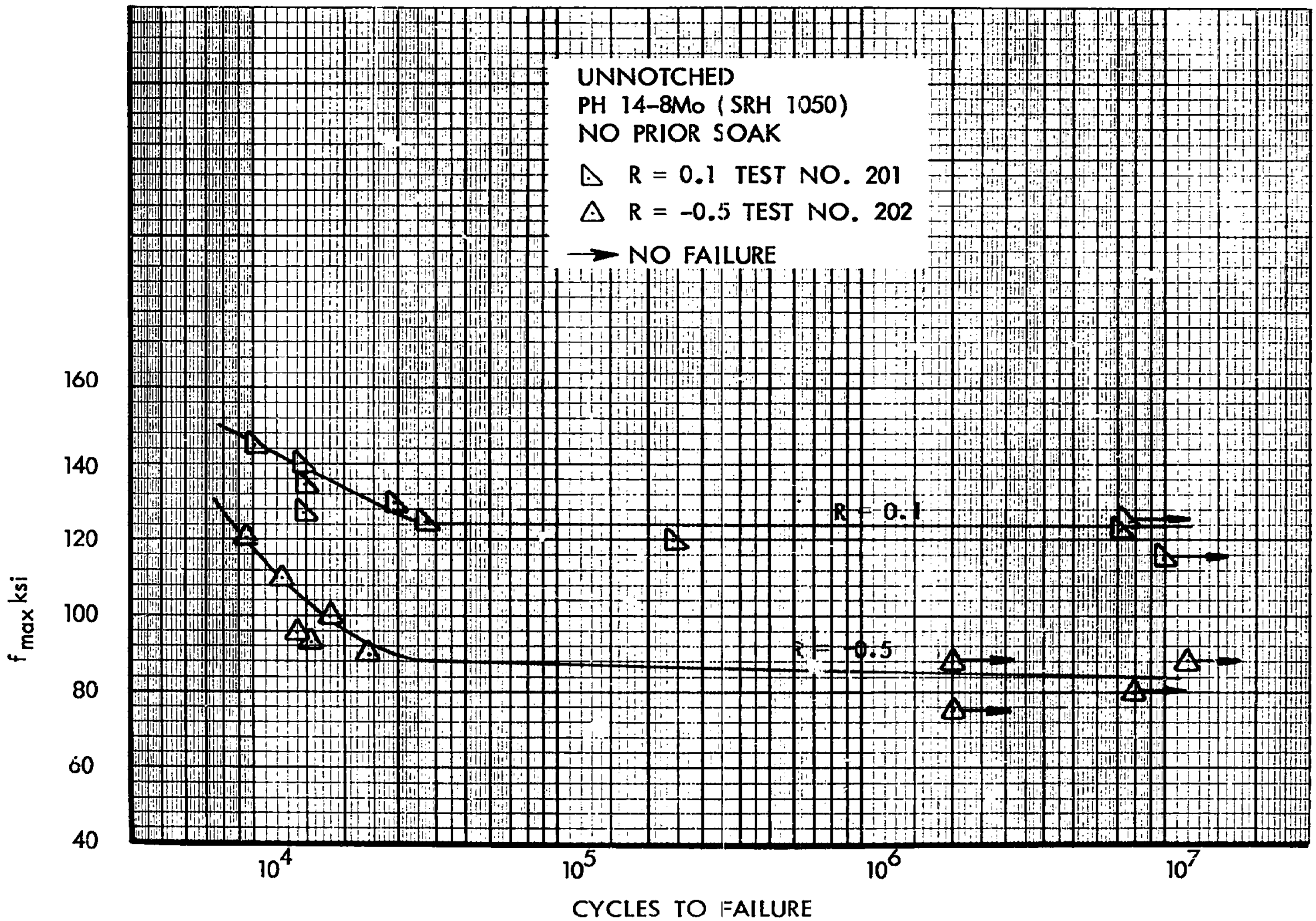


Figure 129. S-N Curves at 650°F, Unnotched PH14-8Mo, R = Constant

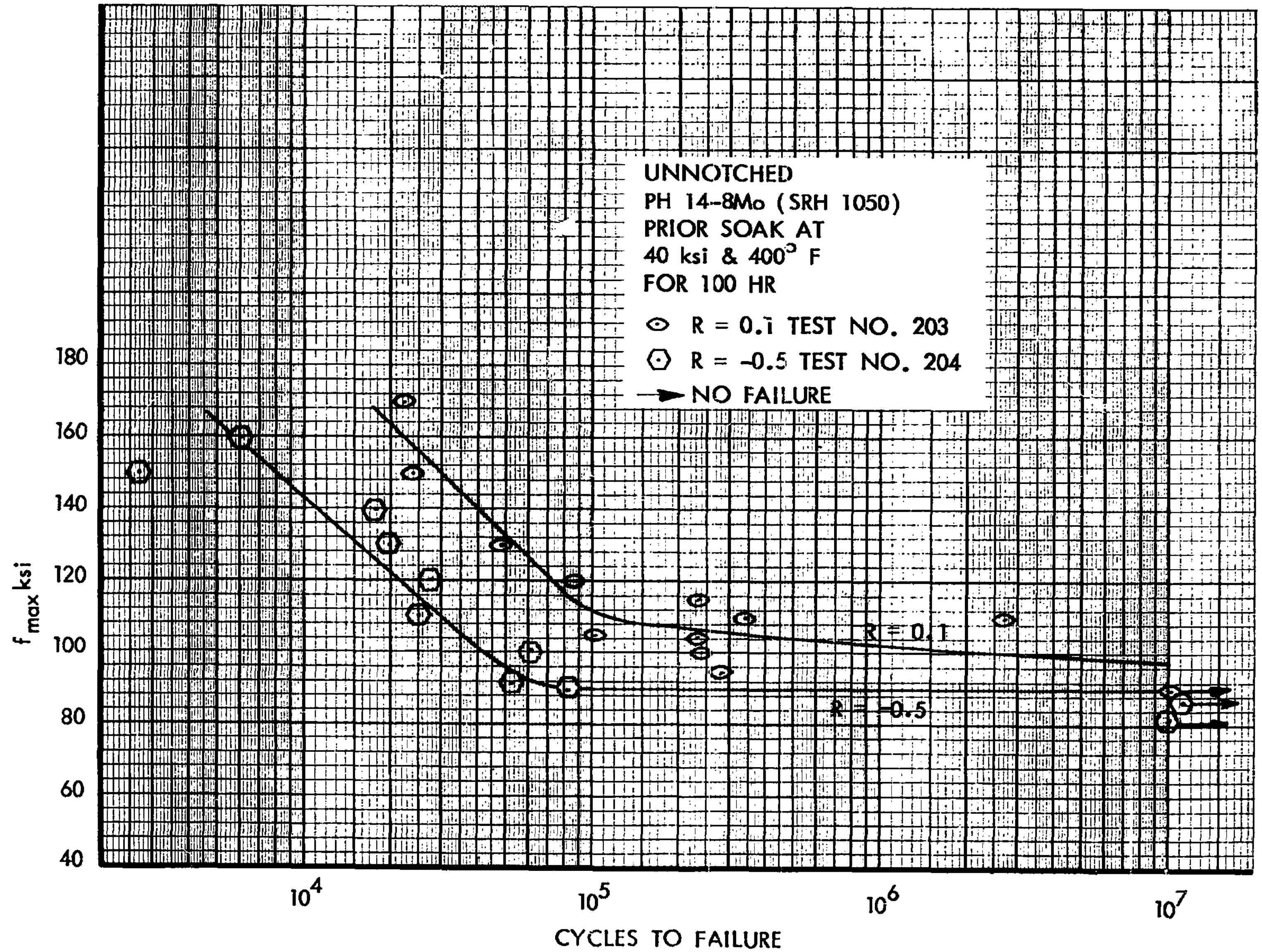


Figure 130. S-N Curves at Room Temperature, Unnotched PH14-8Mo, R = Constant

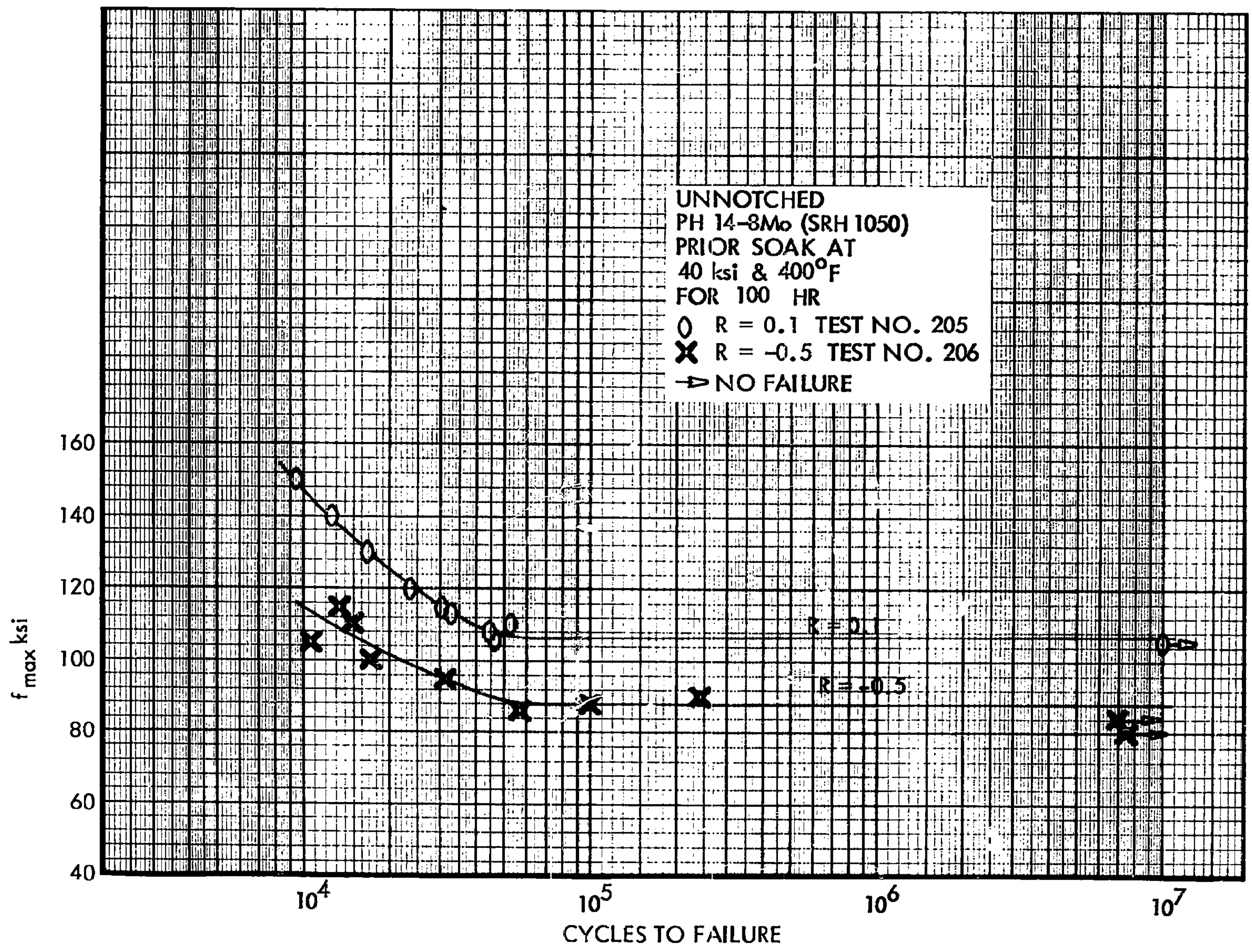


Figure 131. S-N Curves at 400°F, Unnotched PH14-8Mo, R = Constant

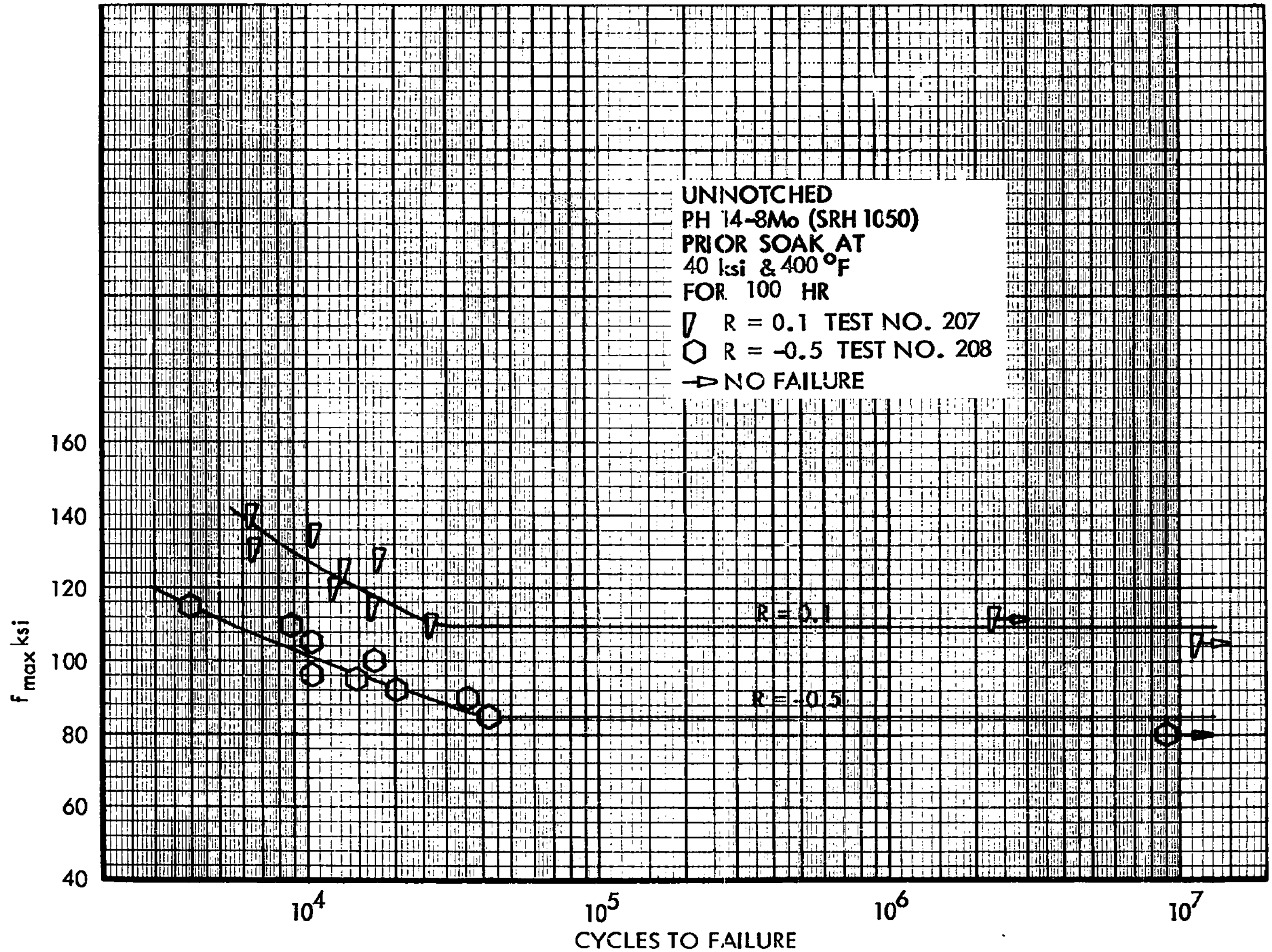


Figure 132. S-N Curves at 650°F, Unnotched PH14-8Mo, R = Constant

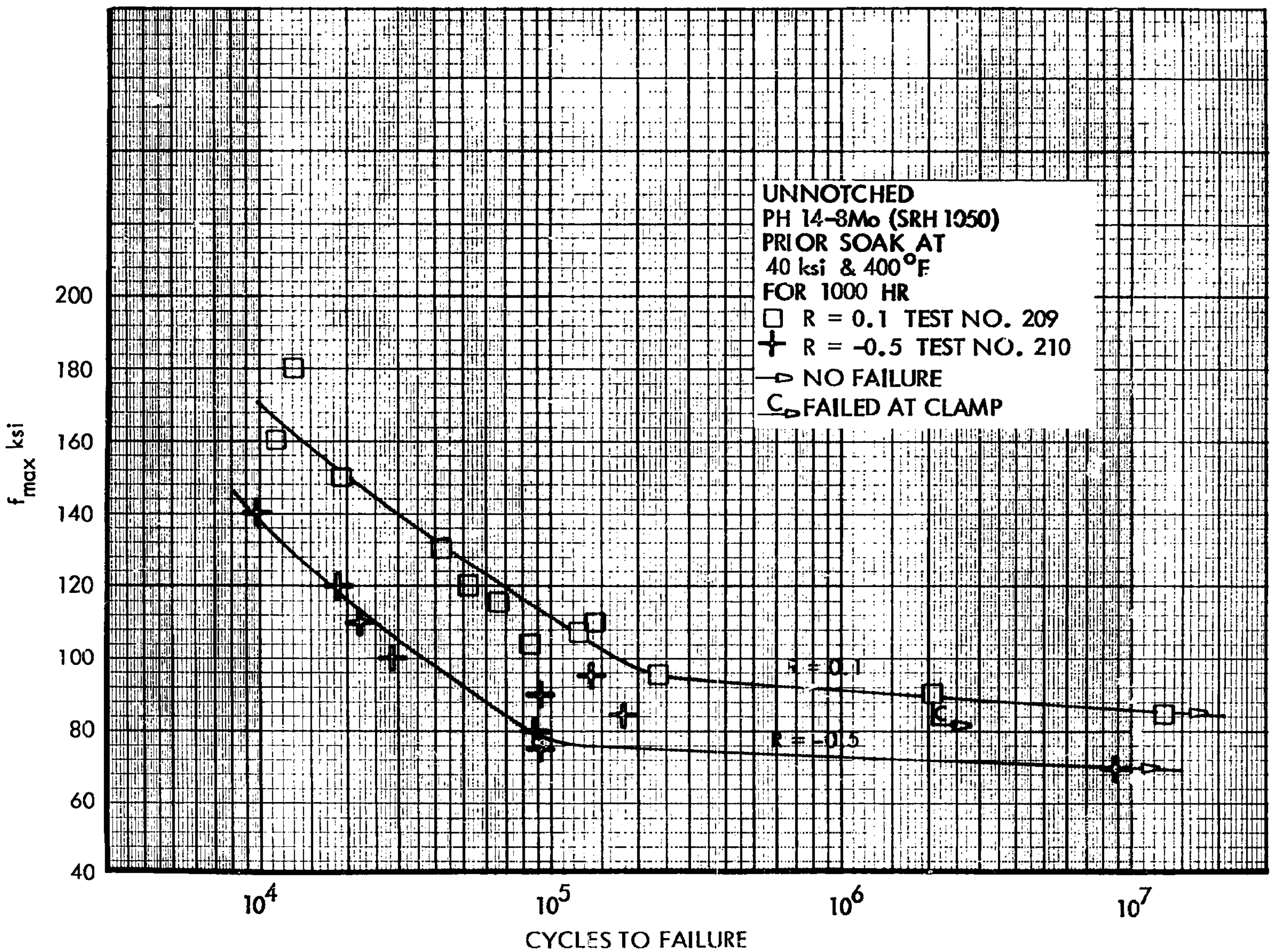


Figure 133. S-N Curves at Room Temperature, Unnotched PH14-8Mo, R = Constant

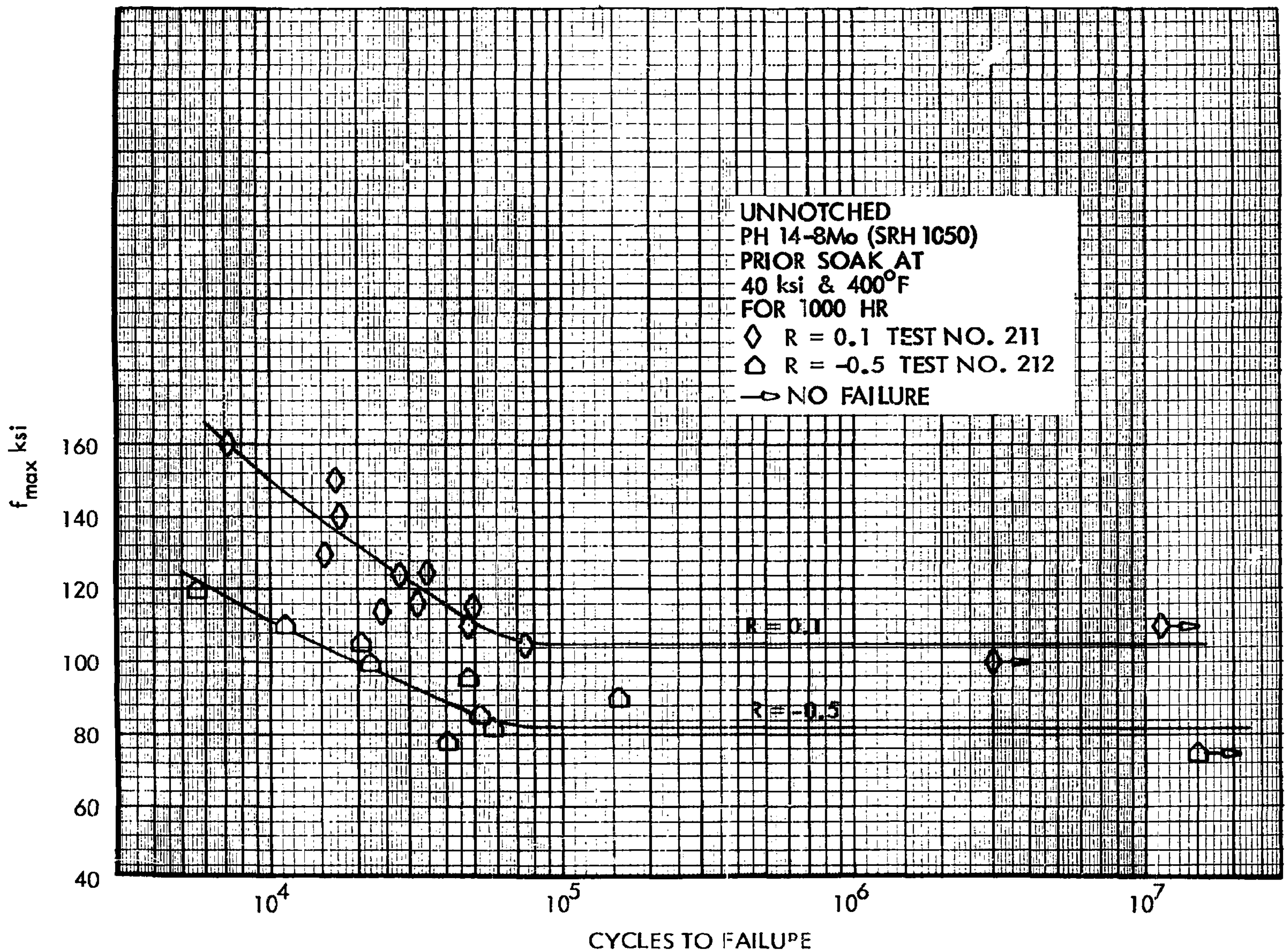


Figure 134. S-N Curves at 400°F, Unnotched PH14-8Mo, R = Constant

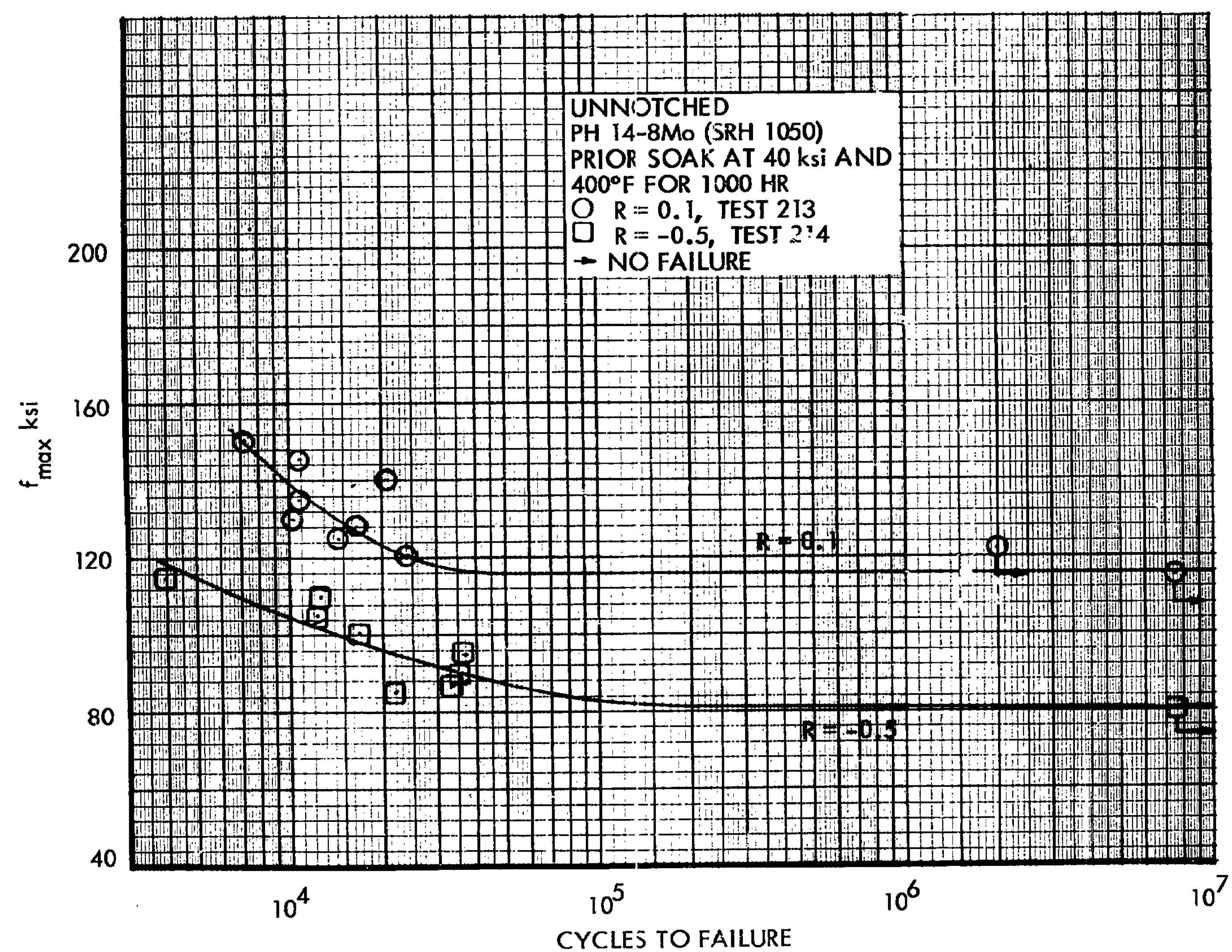


Figure 135. S-N Curves at 650°F, Unnotched PH14-8Mo, R = Constant

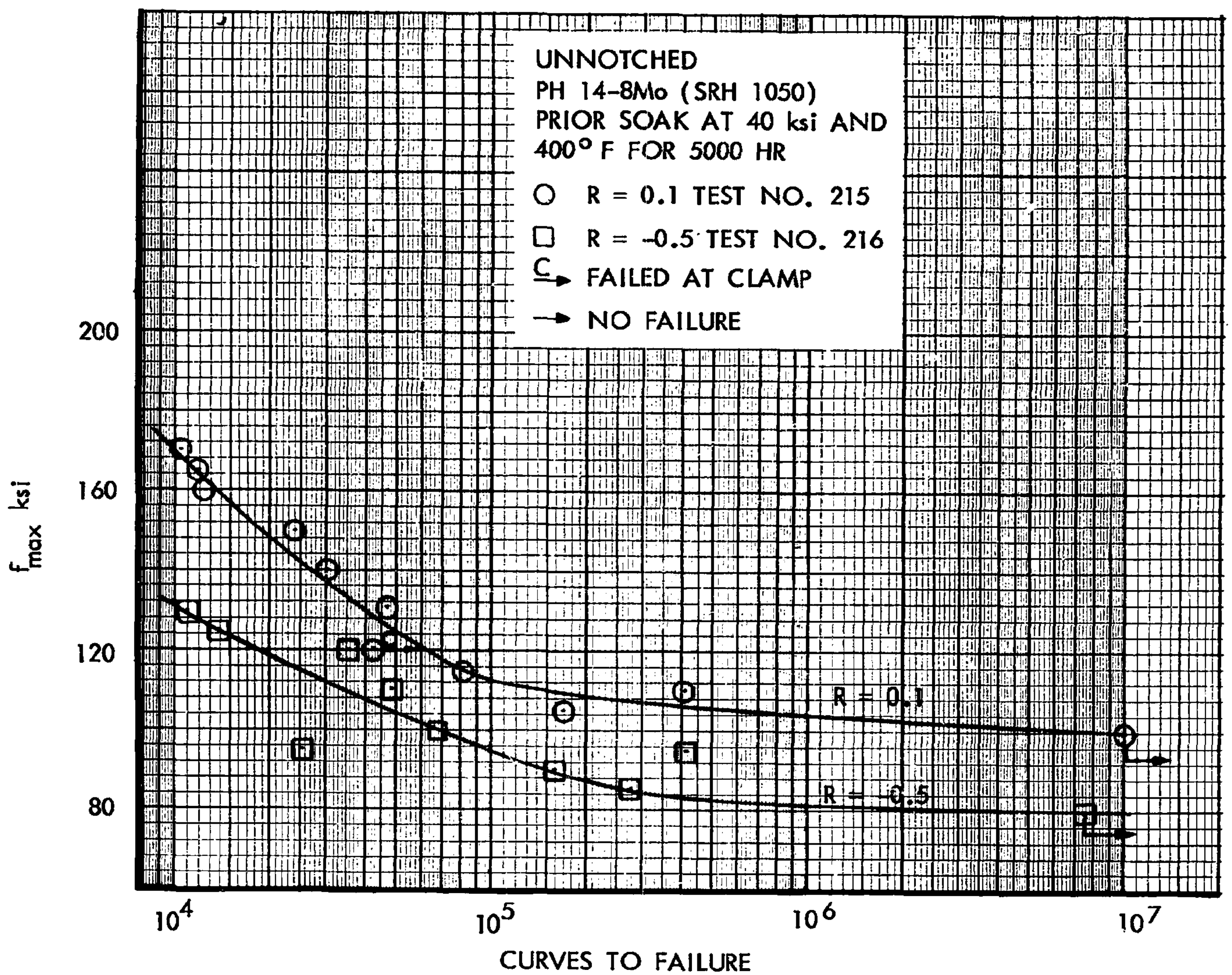


Figure 136. S-N Curves at Room Temperature, Unnotched PH14-8Mo, R = Constant

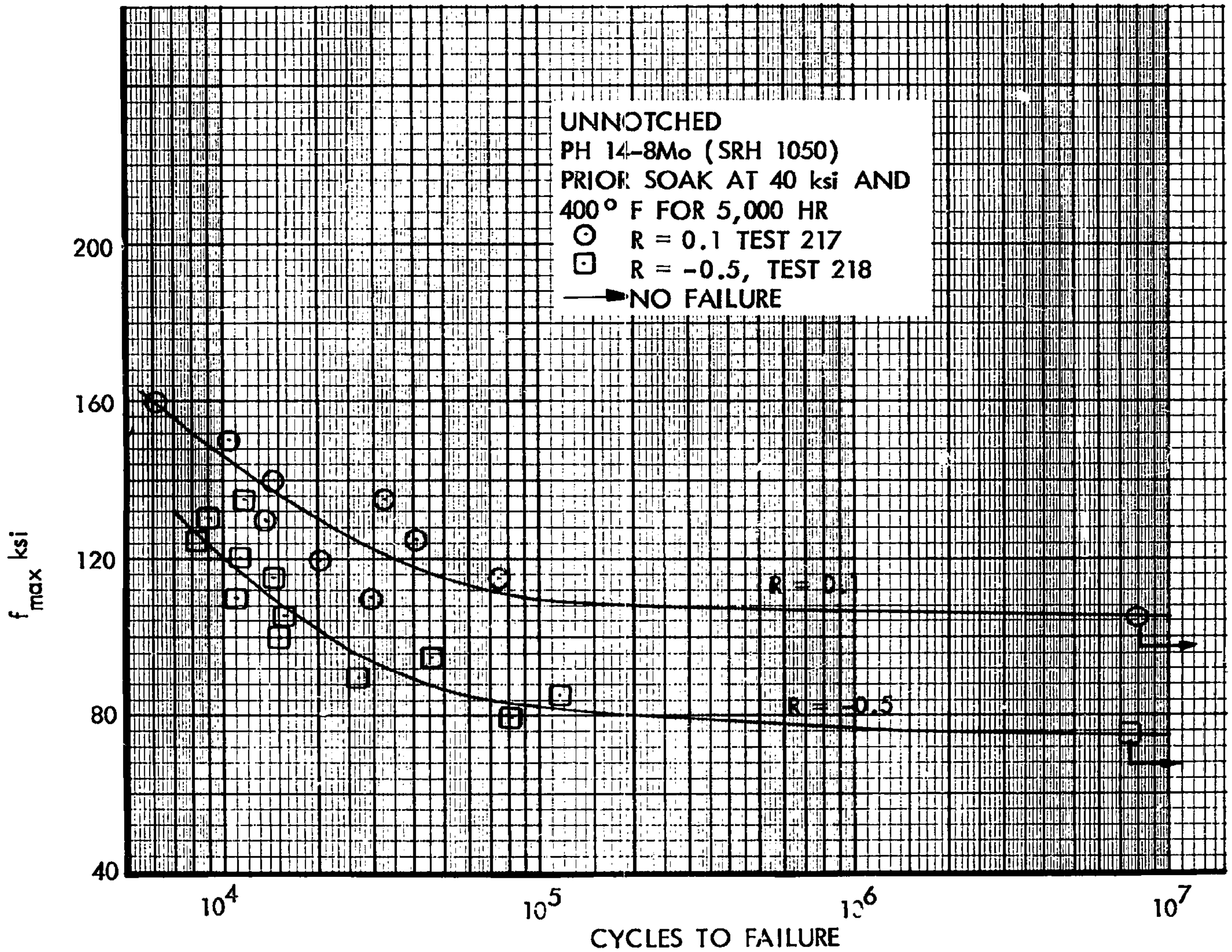


Figure 137. S-N Curves at 400°F, Unnotched PH14-8Mo, R = Constant

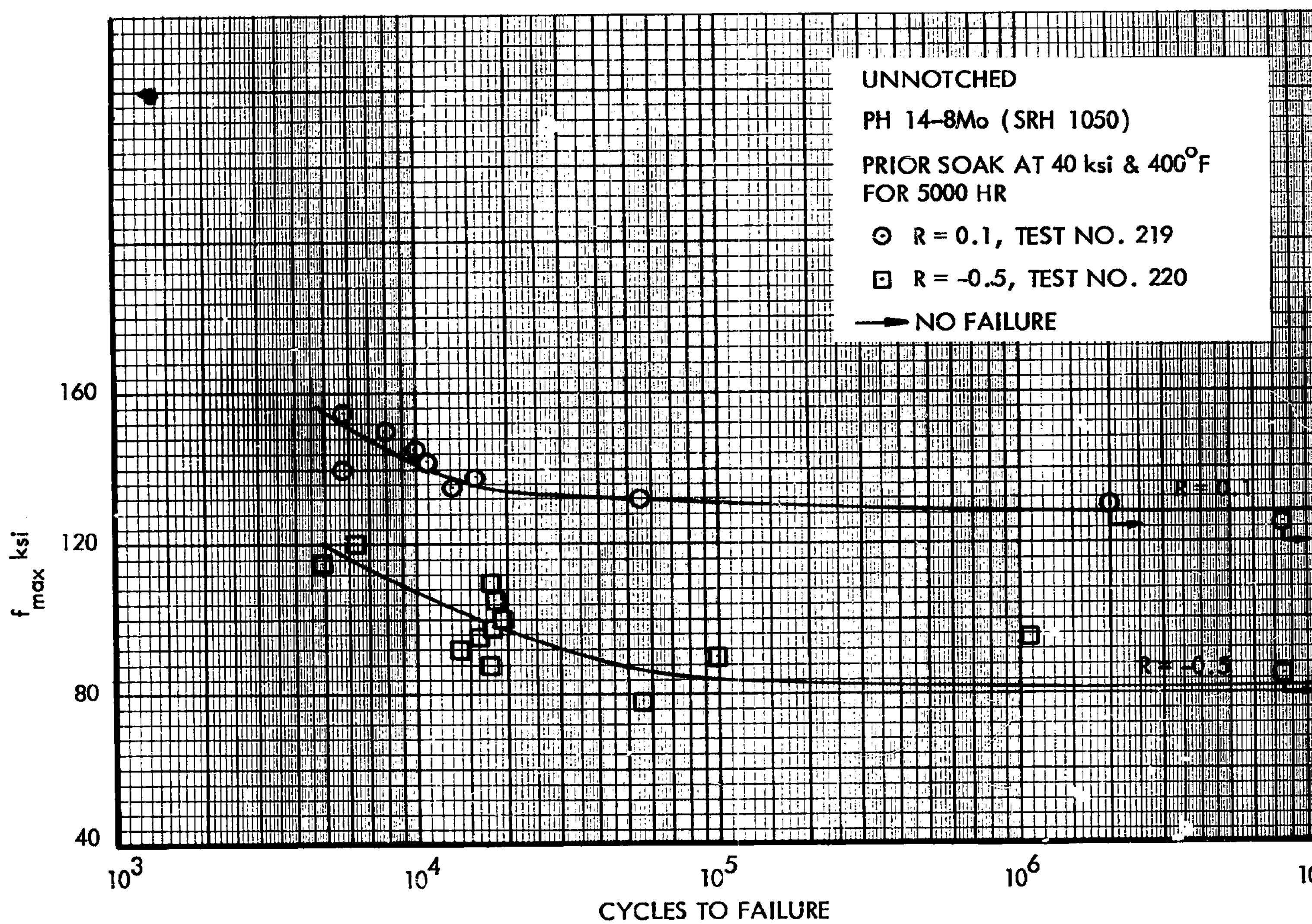


Figure 138. S-N Curves at 650°F, Unnotched PH14-8Mo, R = Constant

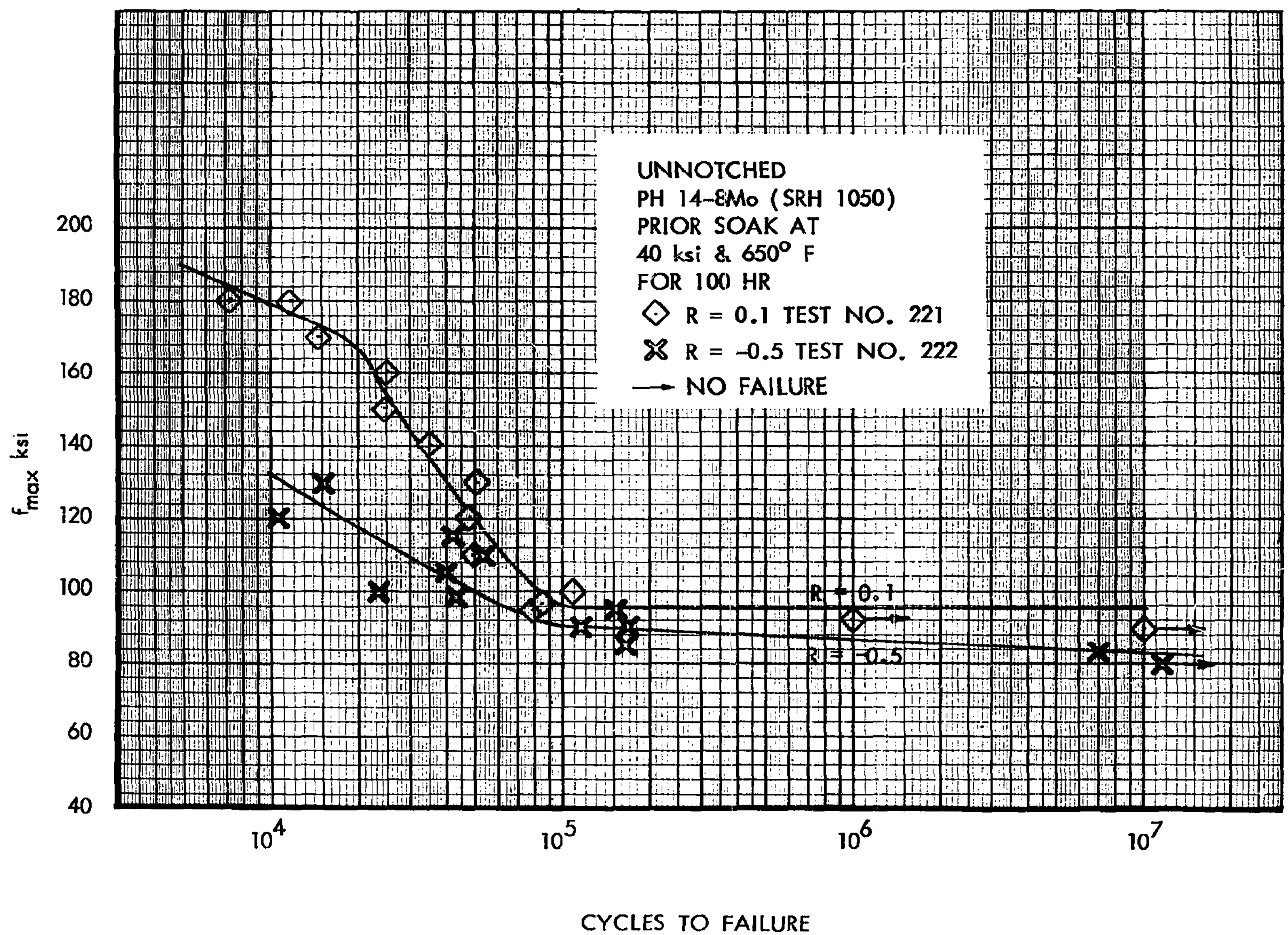


Figure 139. S-N Curves at Room Temperature, Unnotched PH14-8Mo, R = Constant

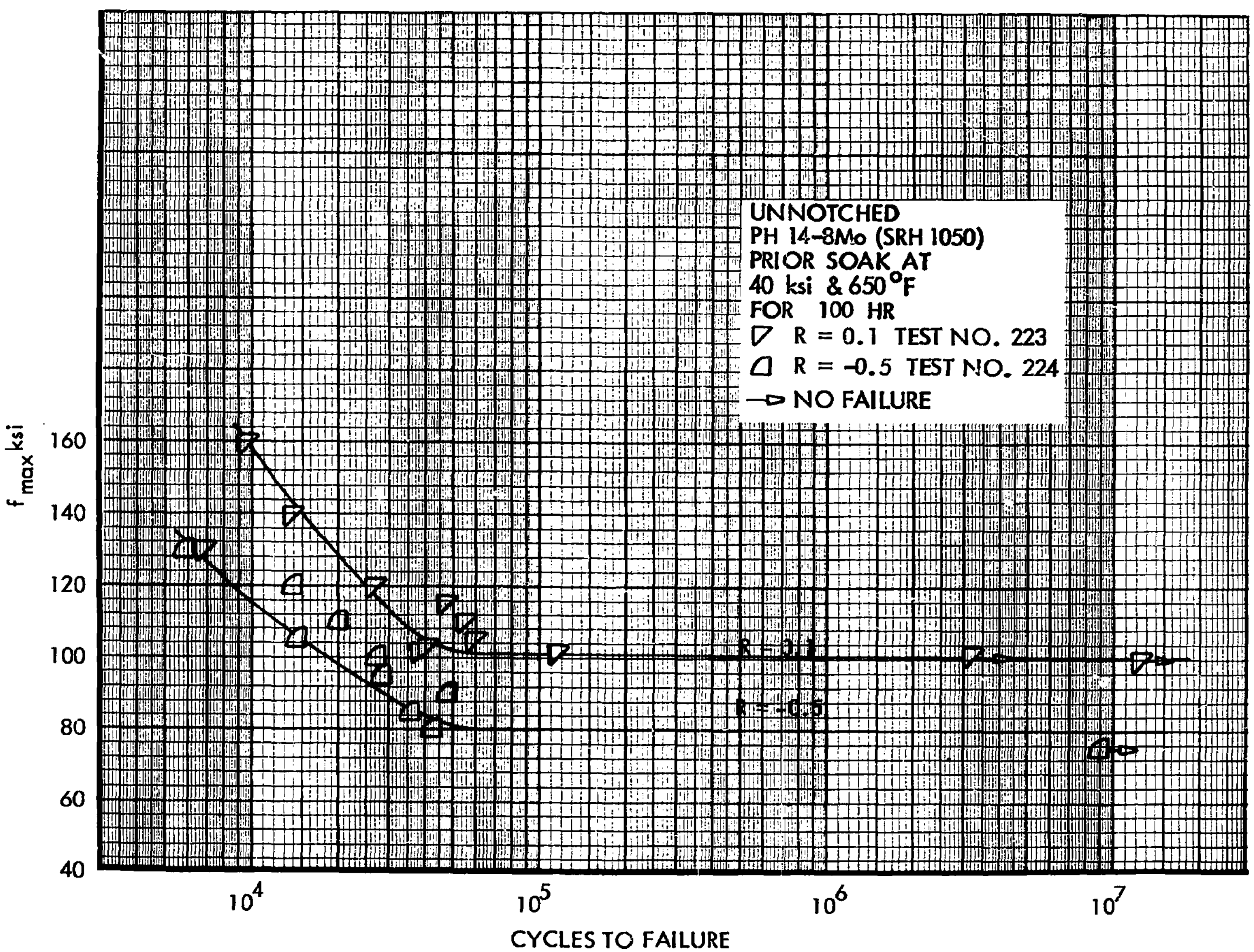


Figure 140. S-N Curves at 400°F, Unnotched PH14-8Mo, R = Constant

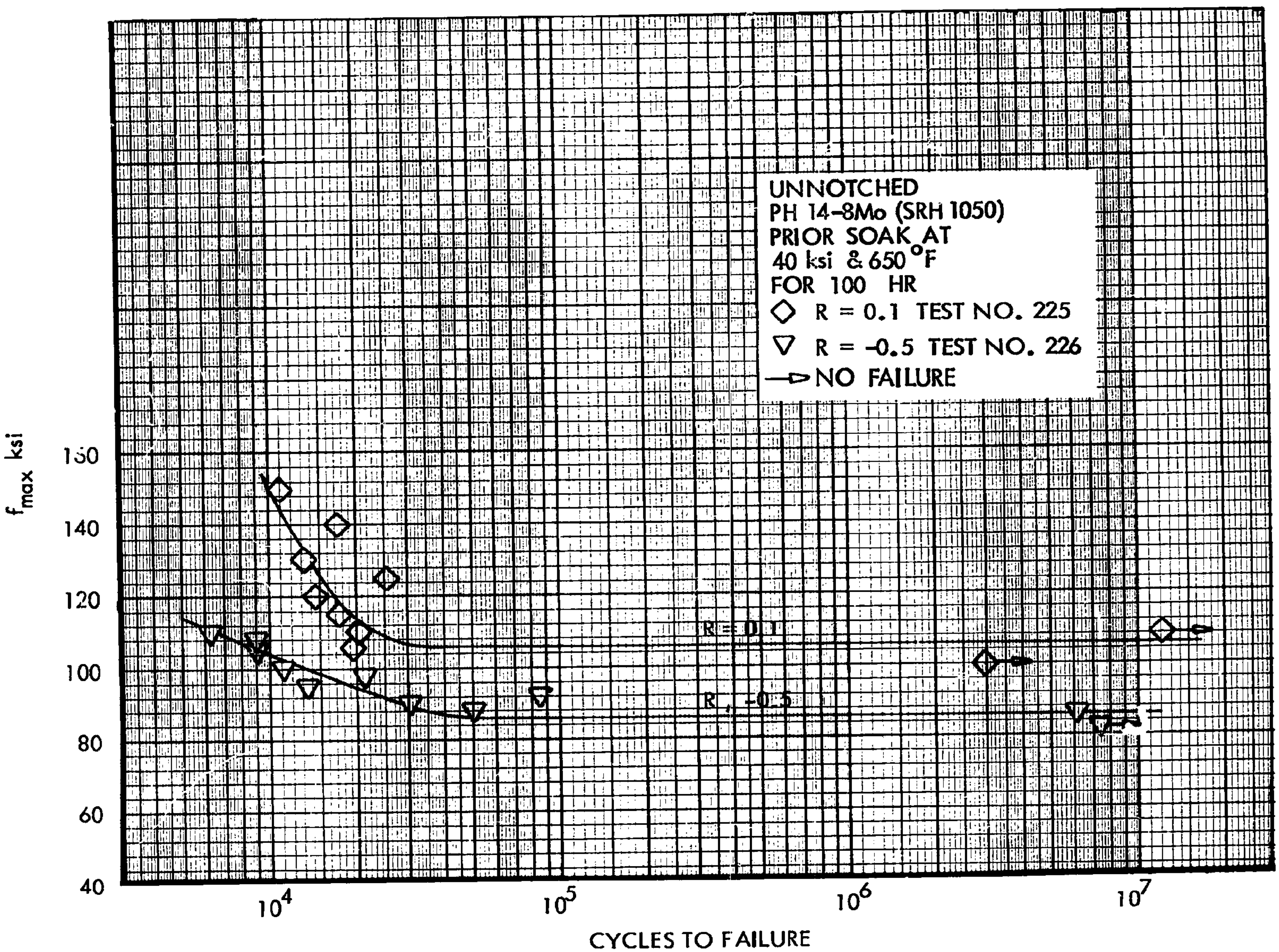


Figure 141. S-N Curves at 650°F, Unnotched PH14-8Mo, R = Constant

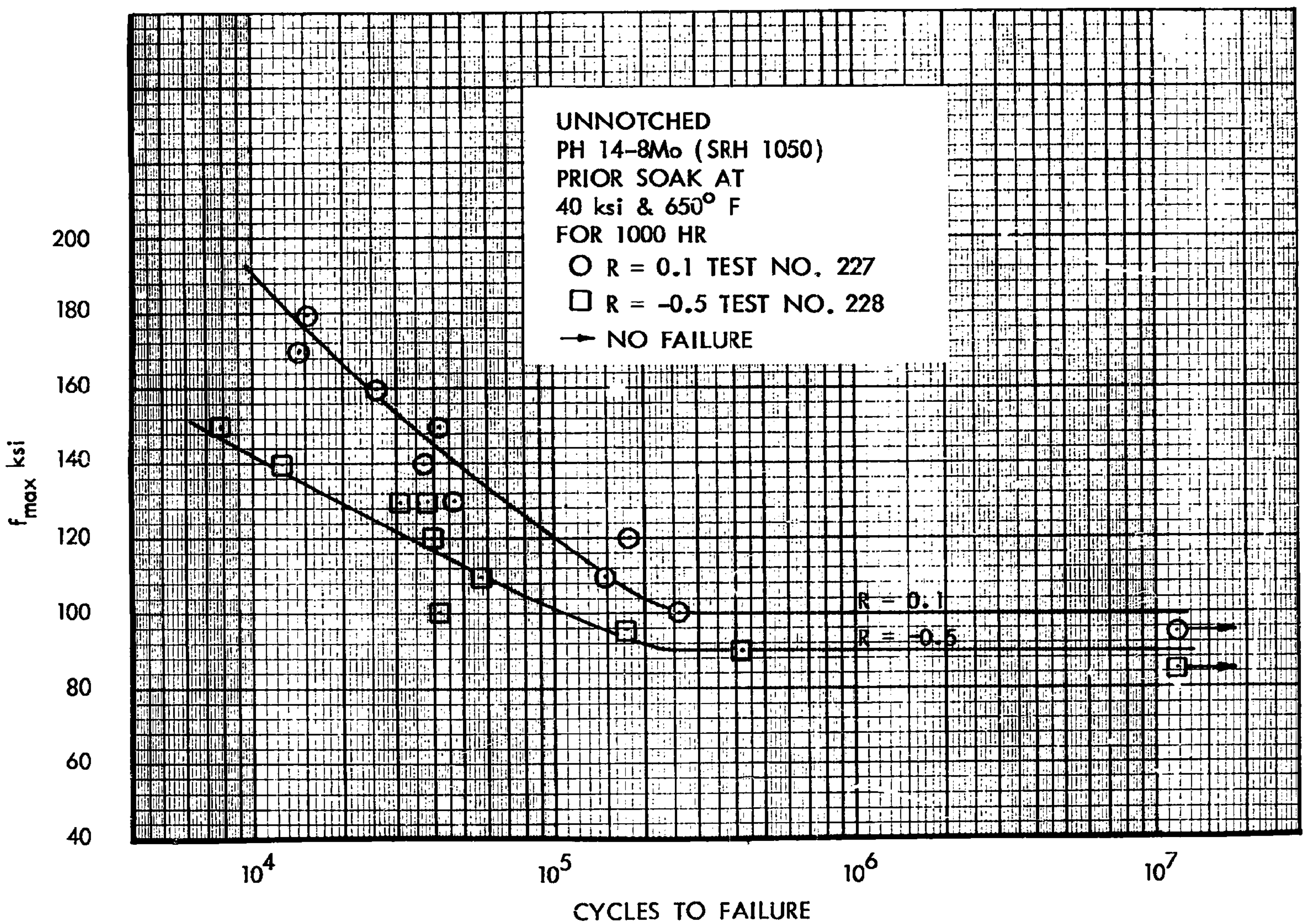


Figure 142. S-N Curves at Room Temperature, Unnotched PH14-8Mo, R = Constant

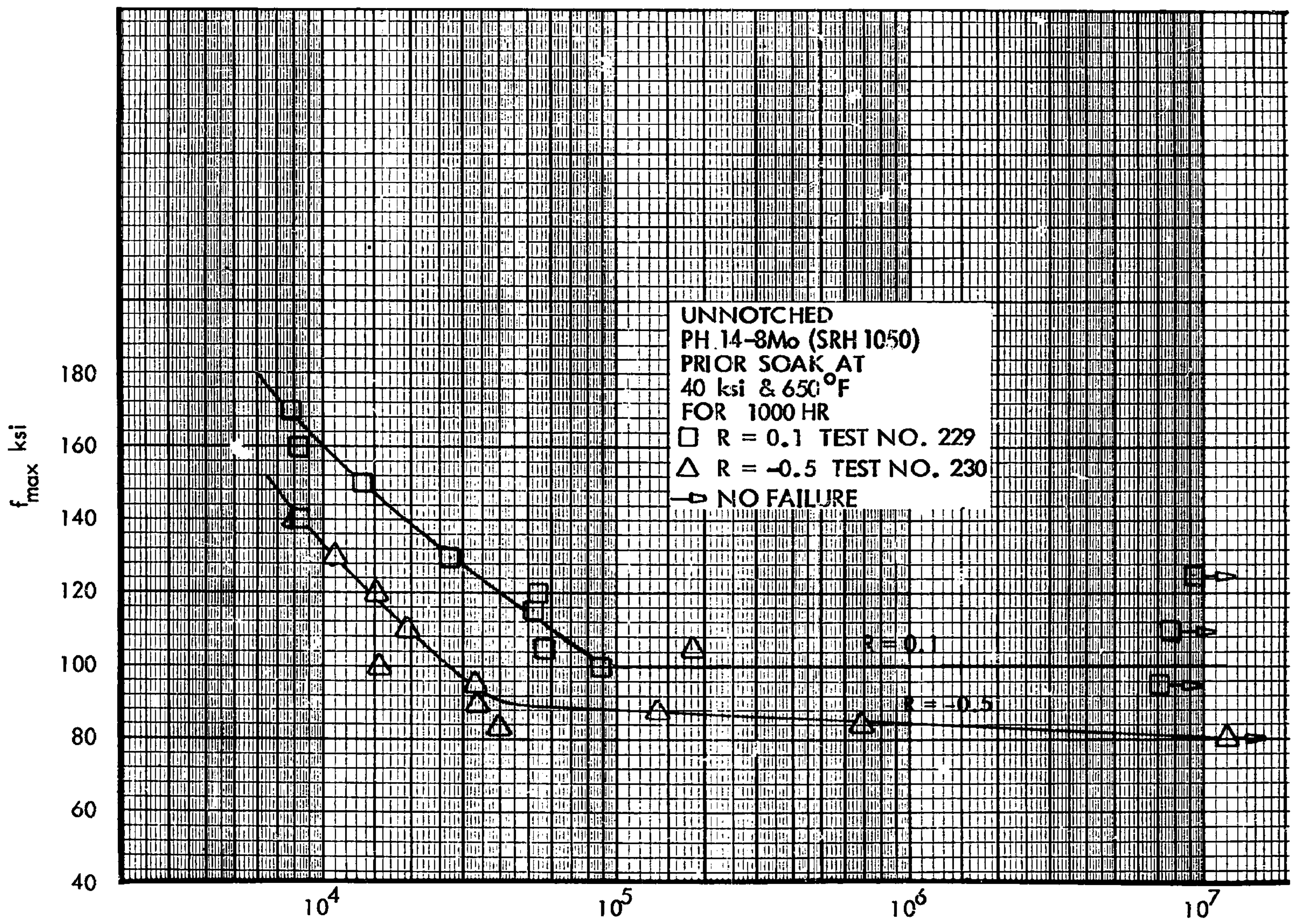


Figure 143. S-N Curves at 400°F, Unnotched PH14-8Mo, R = Constant

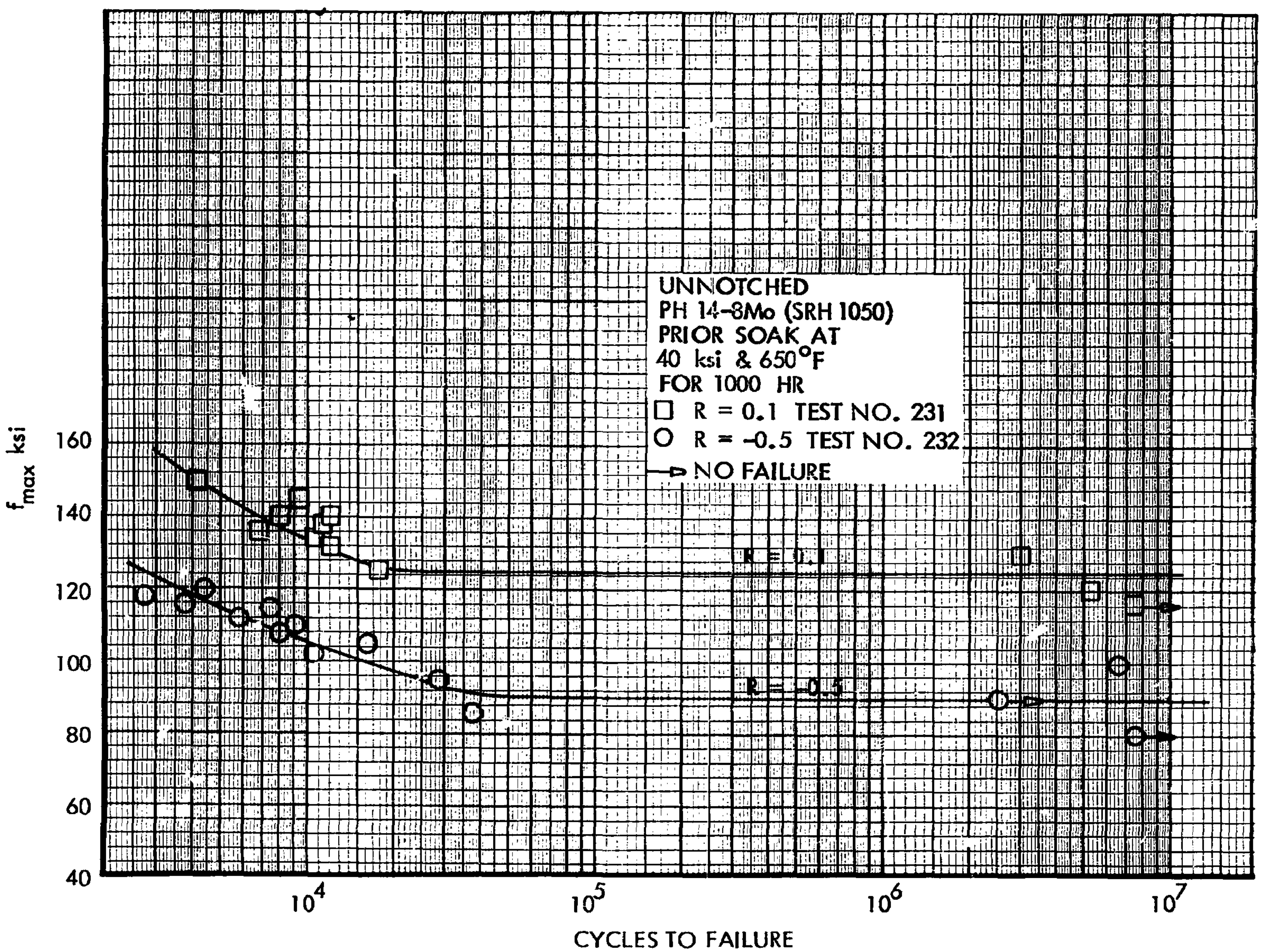


Figure 144. S-N Curves at 650°F, Unnotched PH14-8Mo, R = Constant

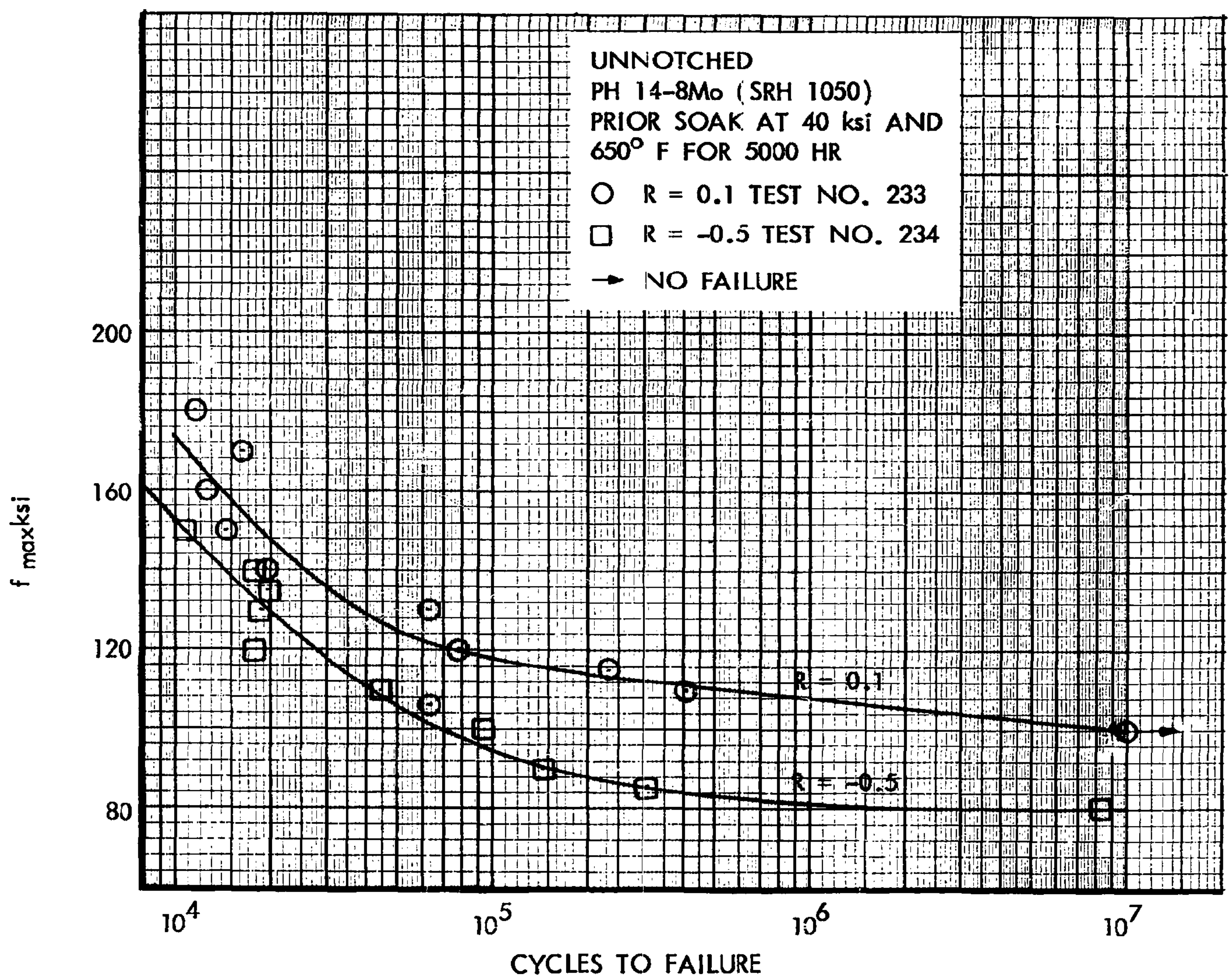


Figure 145. S-N Curves at Room Temperature, Unnotched PH14-8Mo, R = Constant

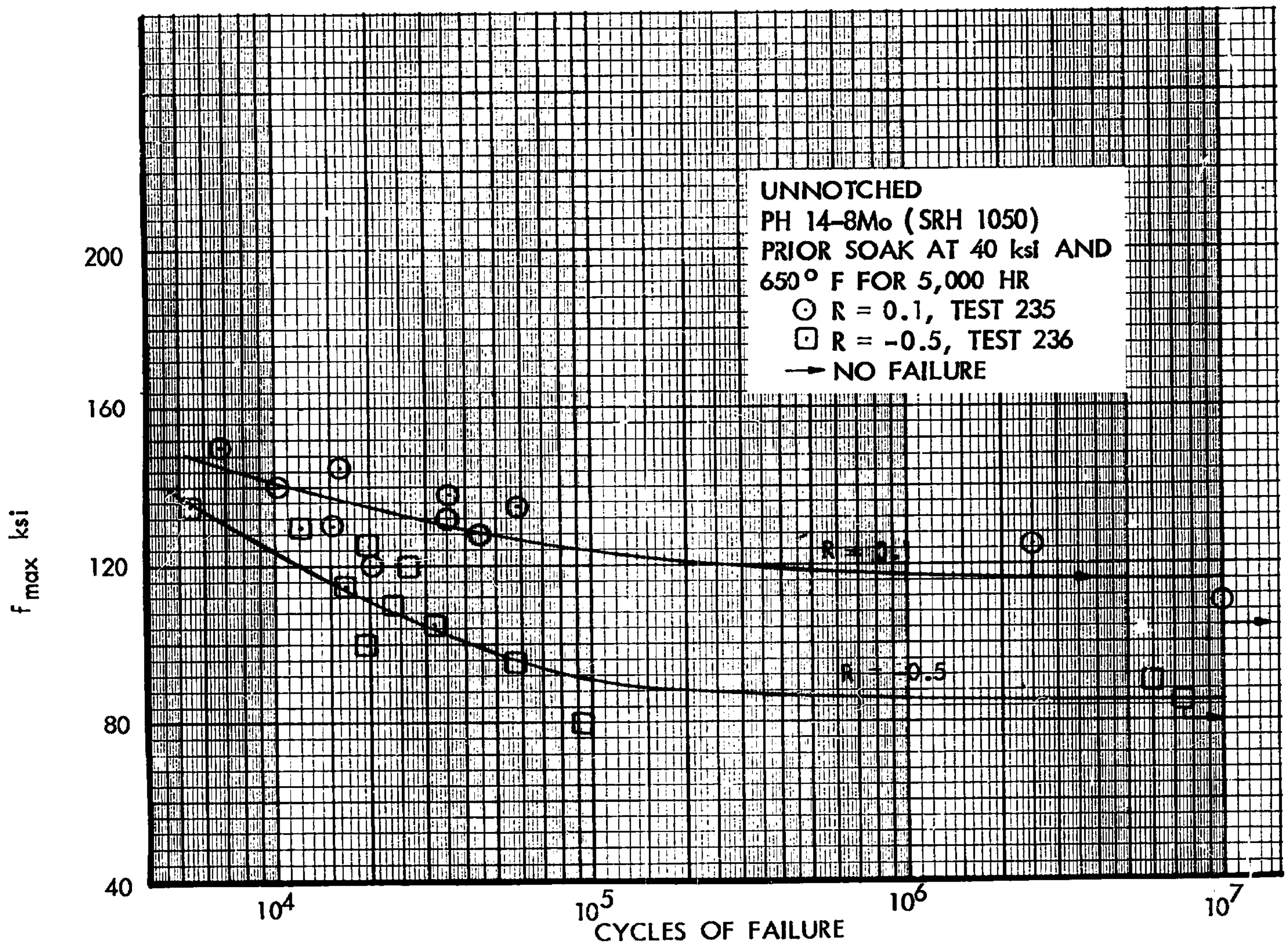


Figure 146. S-N Curves at 400°F, Unnotched PH14-8Mo, R = Constant

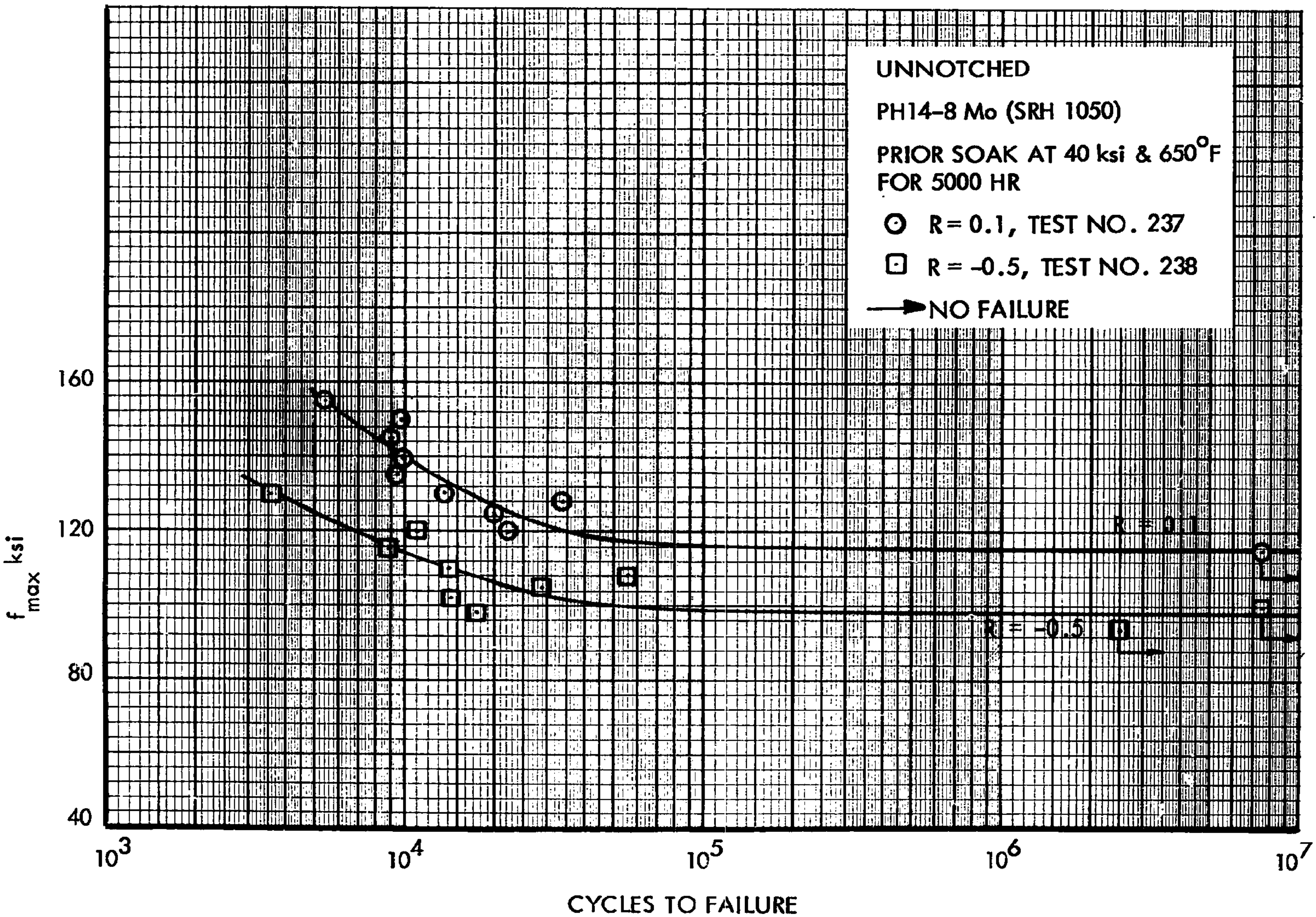


Figure 147. S-N Curves at 650°F, Unnotched PH14-8Mo, R = Constant

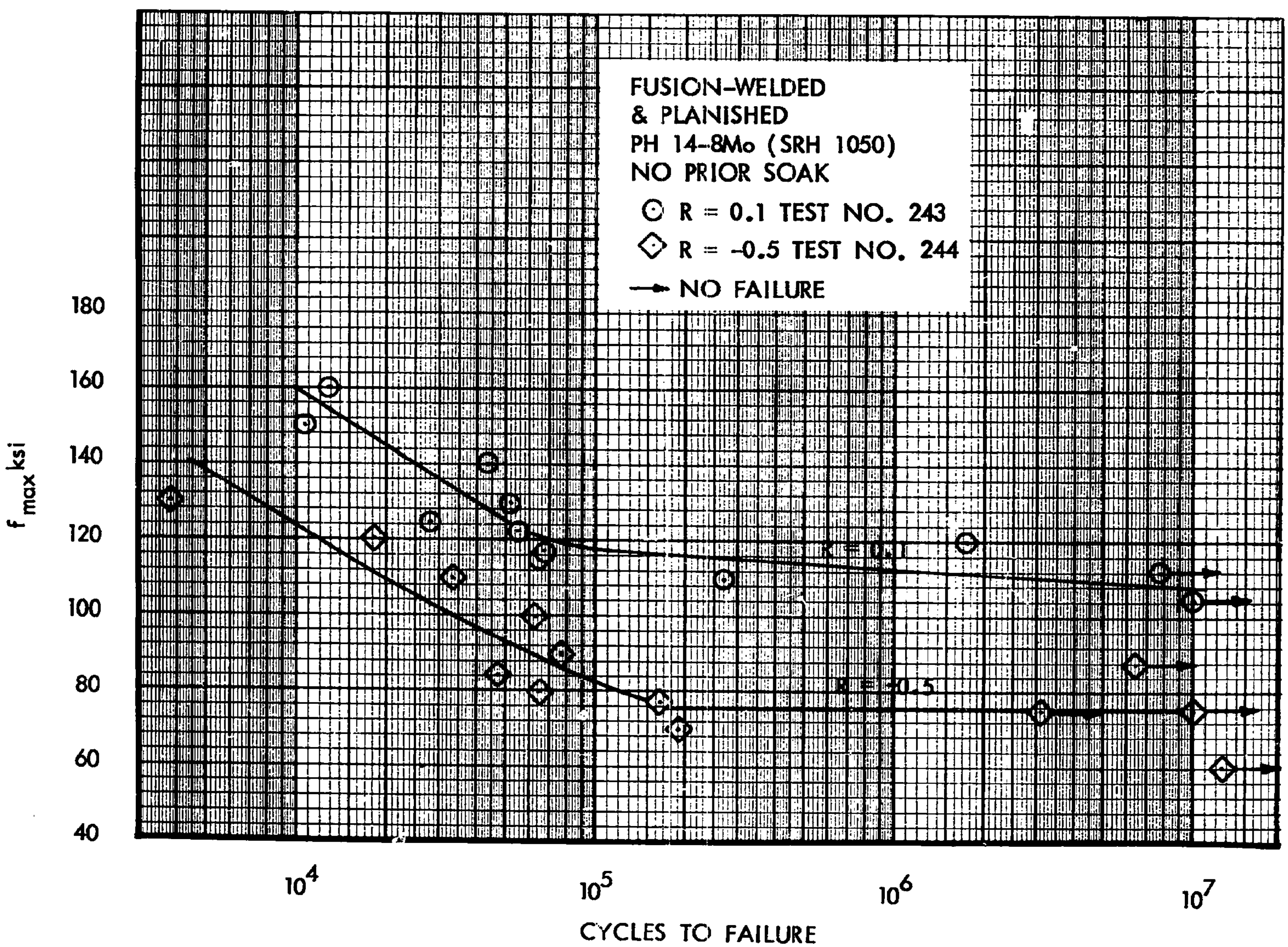


Figure 148. S-N Curves at Room Temperature, Fusion-Welded PH14-8Mo, R = Constant

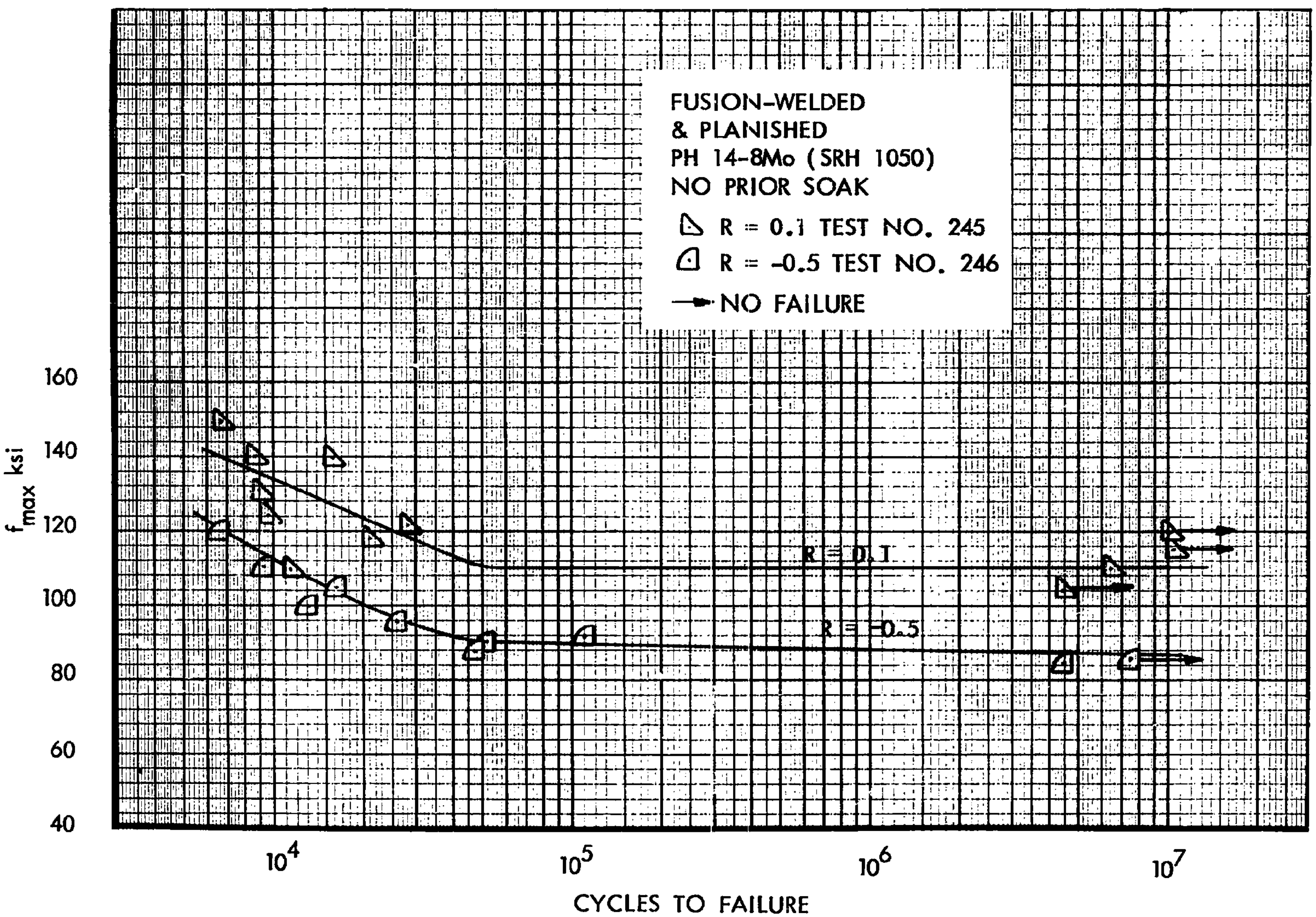


Figure 149. S-N Curves at 400°F, Fusion-Welded PH14-8Mo, R = Constant

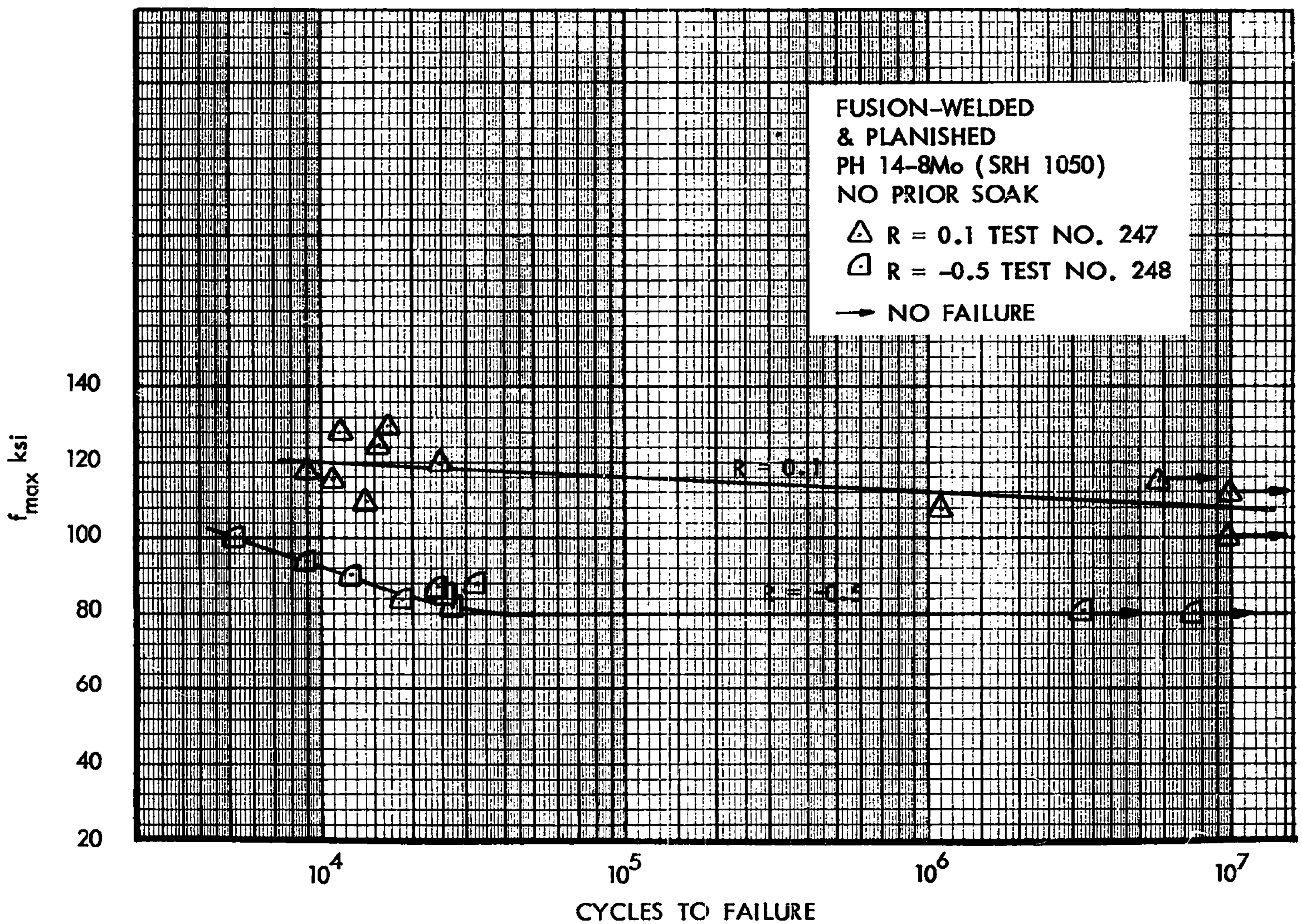


Figure 150. S-N Curves at 650°F, Fusion-Welded PH14-8Mo, R = Constant

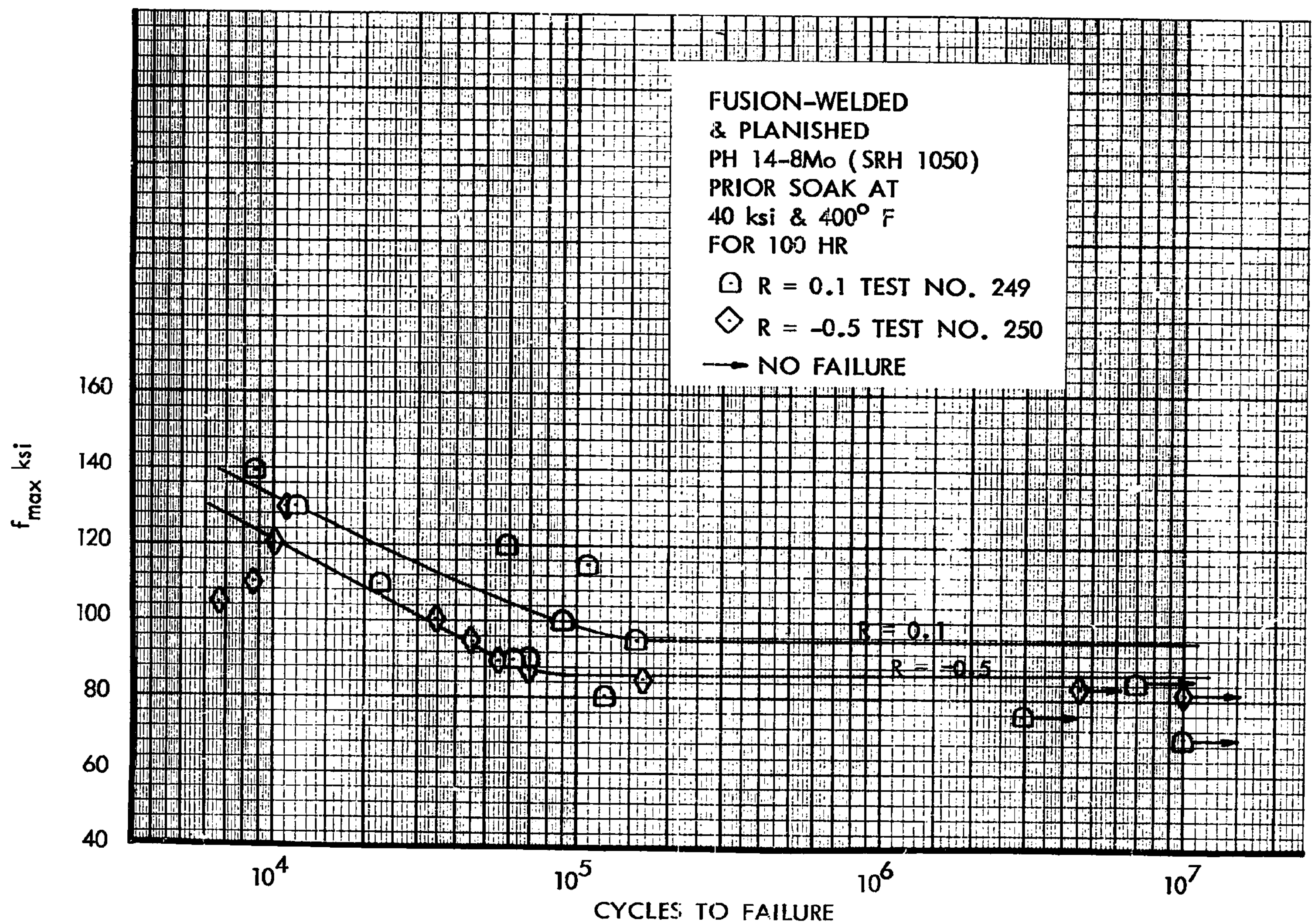


Figure 151. S-N Curves at Room Temperature, Fusion-Welded PH14-8Mo, R = Constant

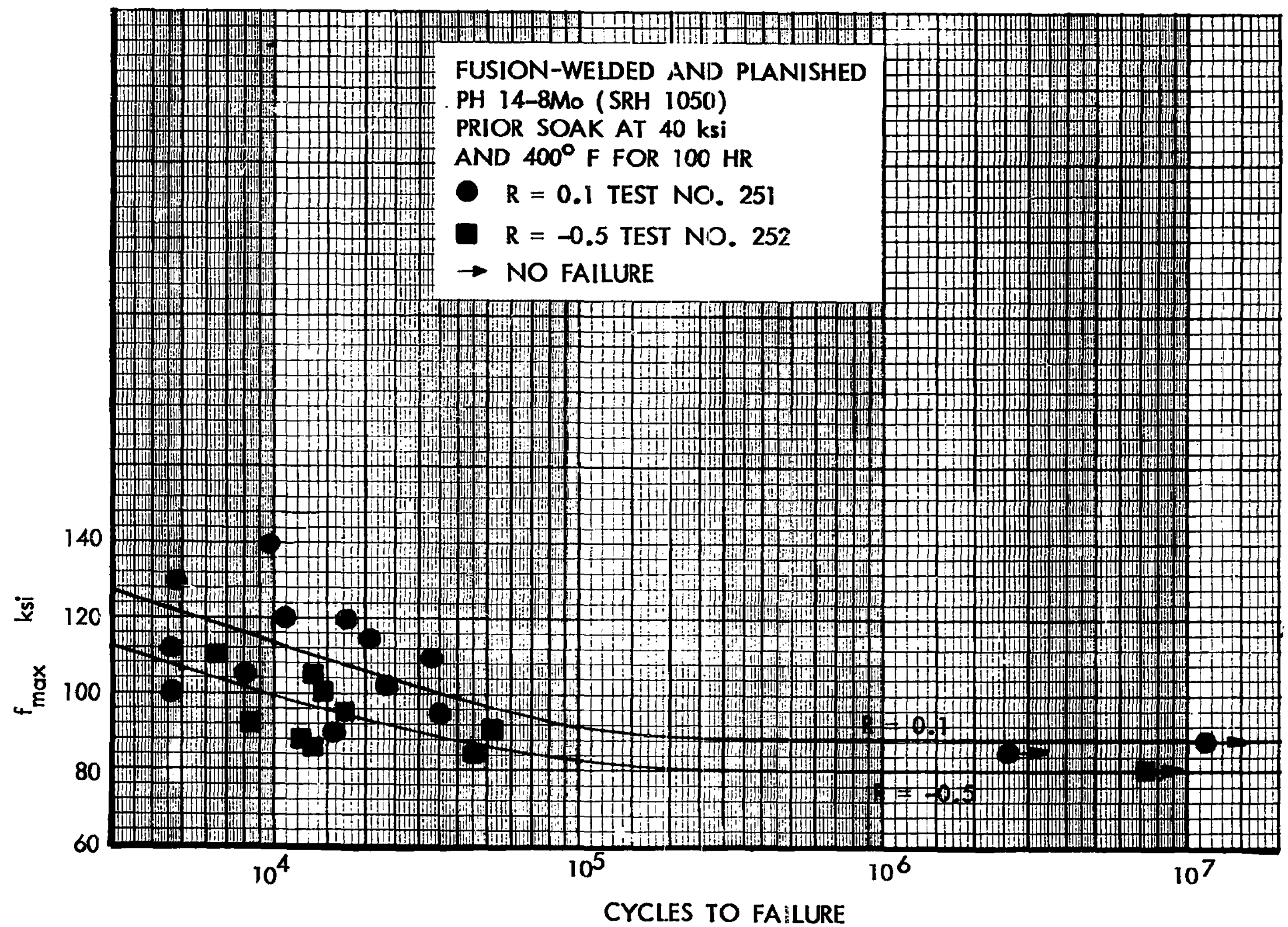


Figure 152. S-N Curves at 400°F, Fusion-Welded PH14-8Mo, R = Constant

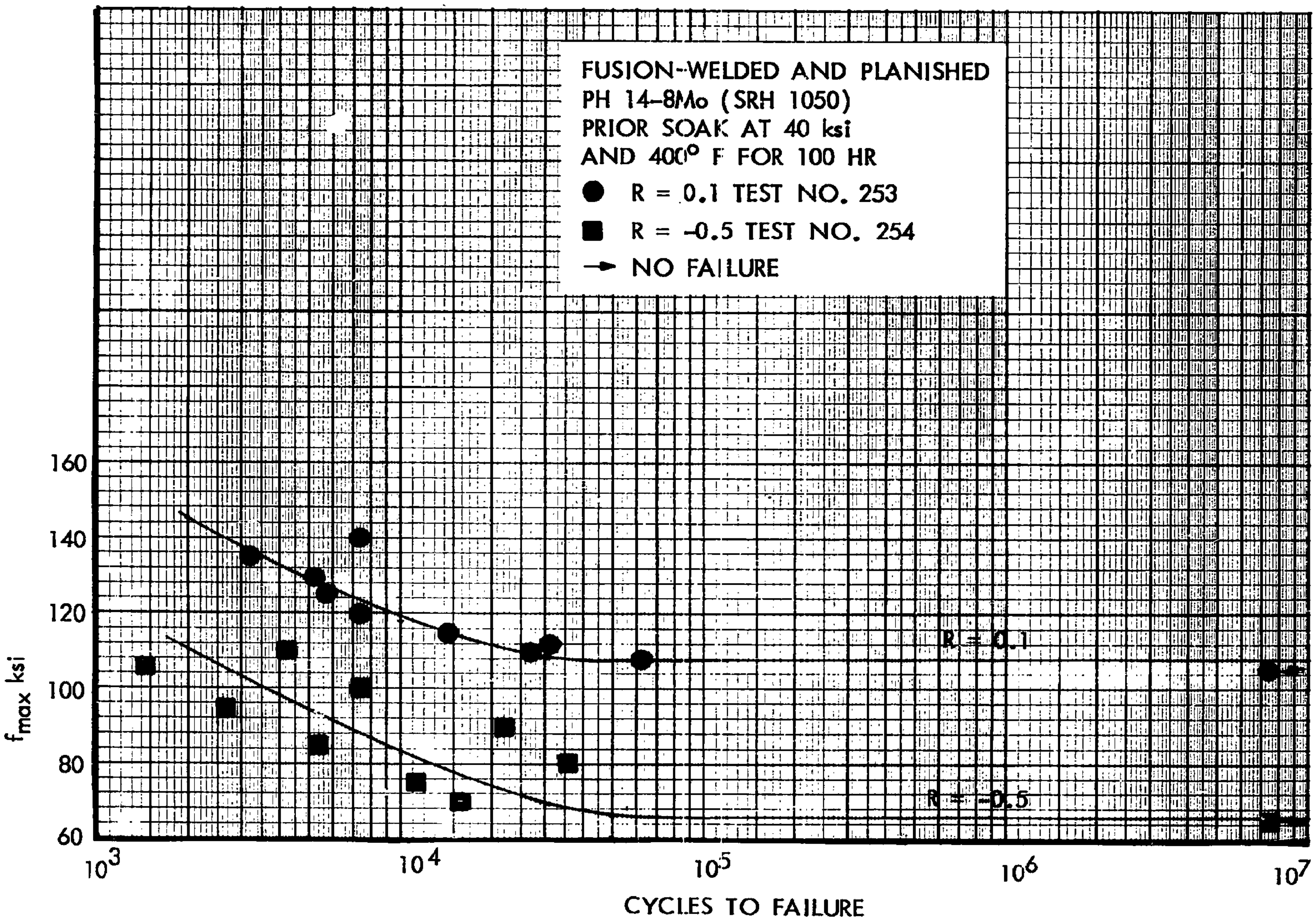


Figure 153. S-N Curves at 650°F, Fusion-Welded PH14-8Mo, R = Constant

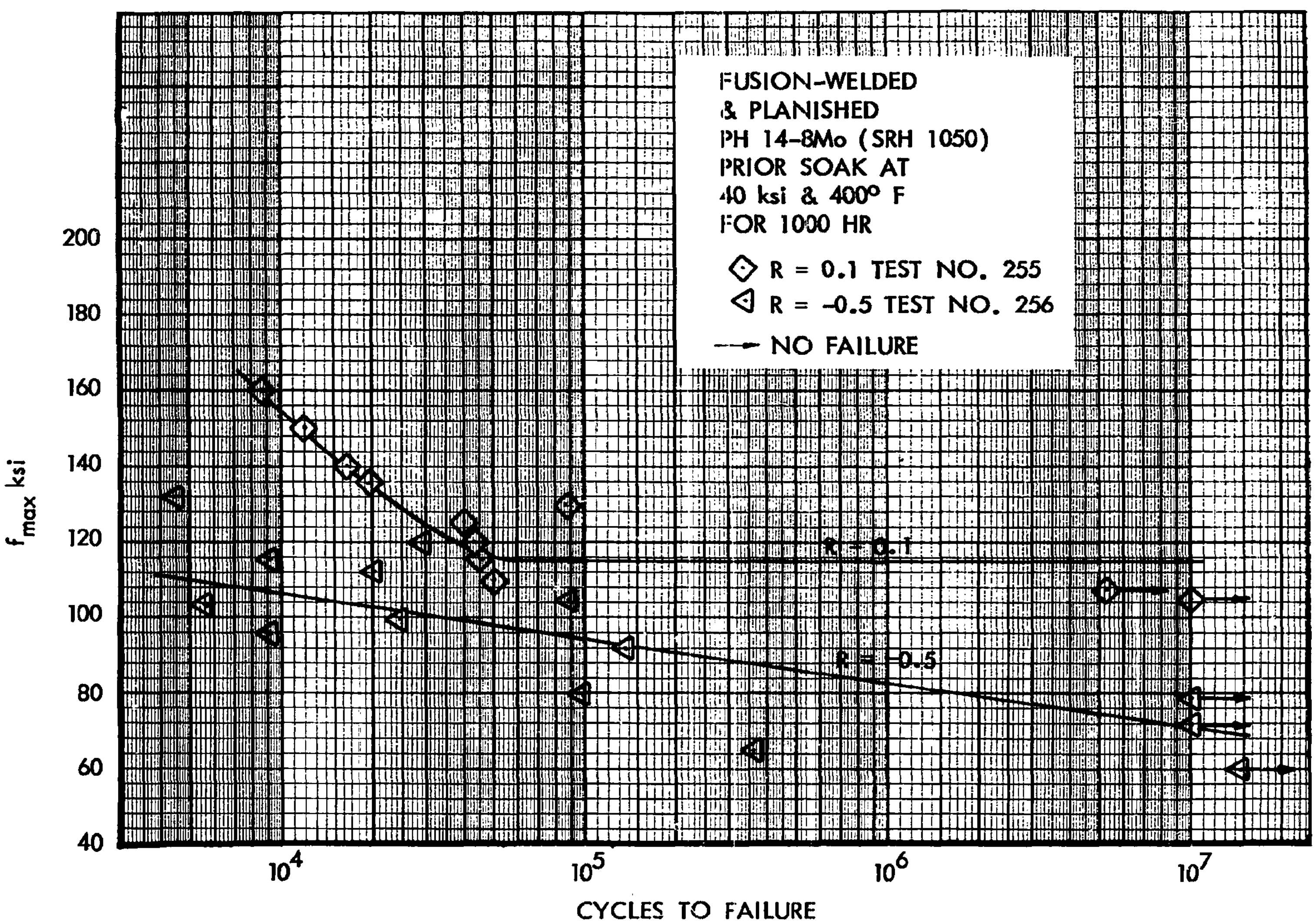


Figure 154. S-N Curves at Room Temperature, Fusion-Welded PH14-8Mo, R = Constant

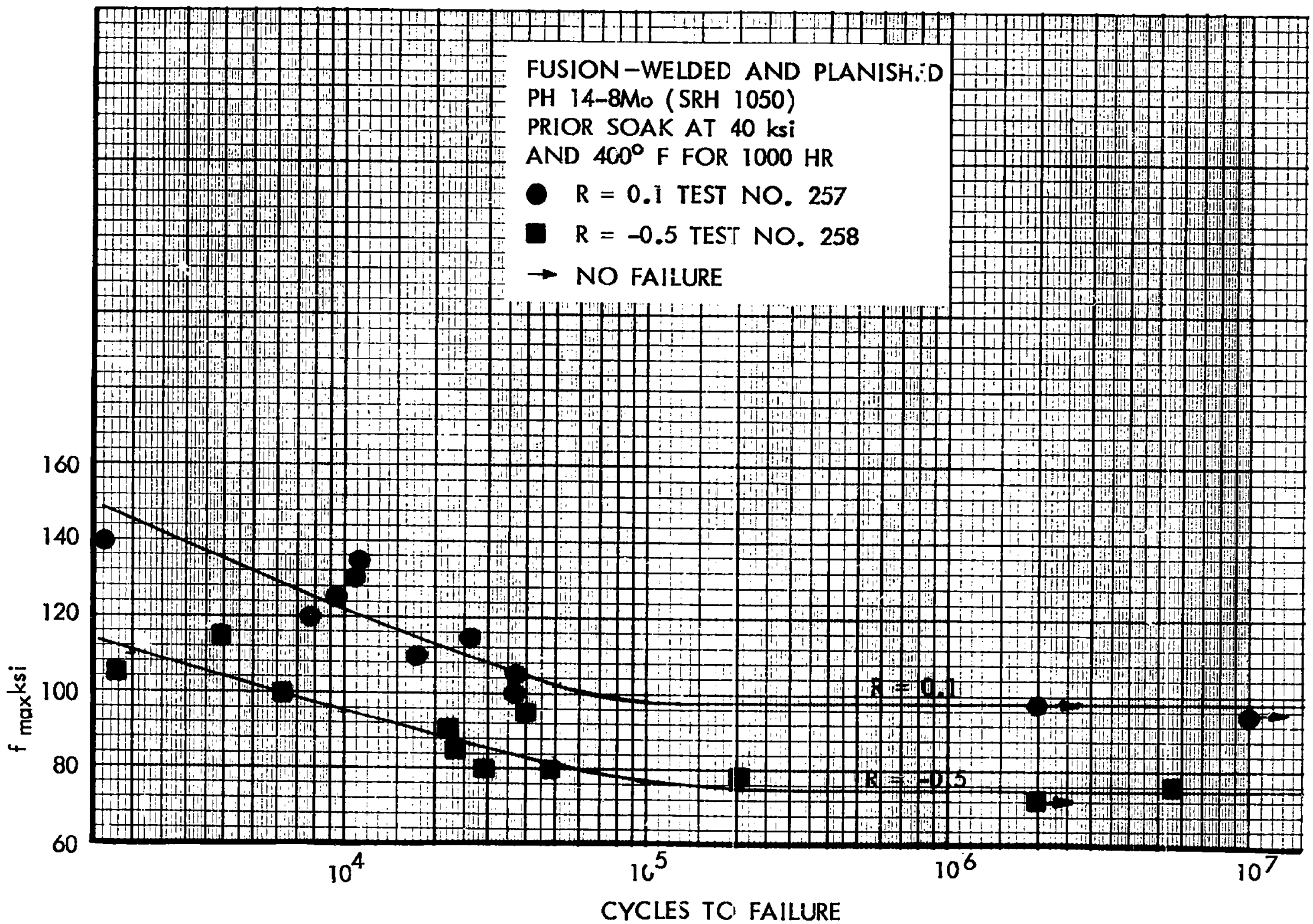


Figure 155. S-N Curves at 400°F, Fusion-Welded PH14-8Mo, R = Constant

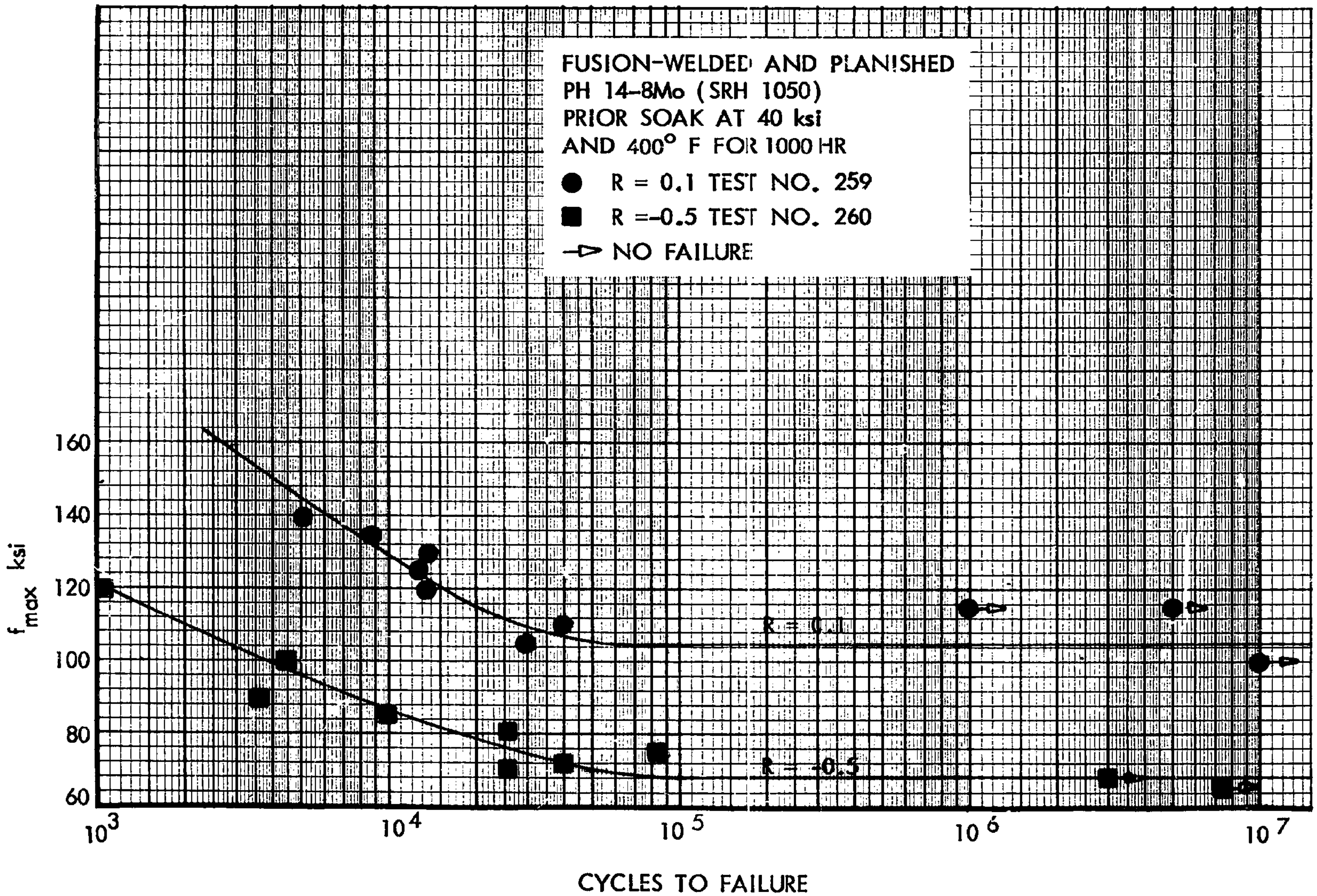


Figure 156. S-N Curves at 650°F, Fusion-Welded PH14-8Mo, R = Constant

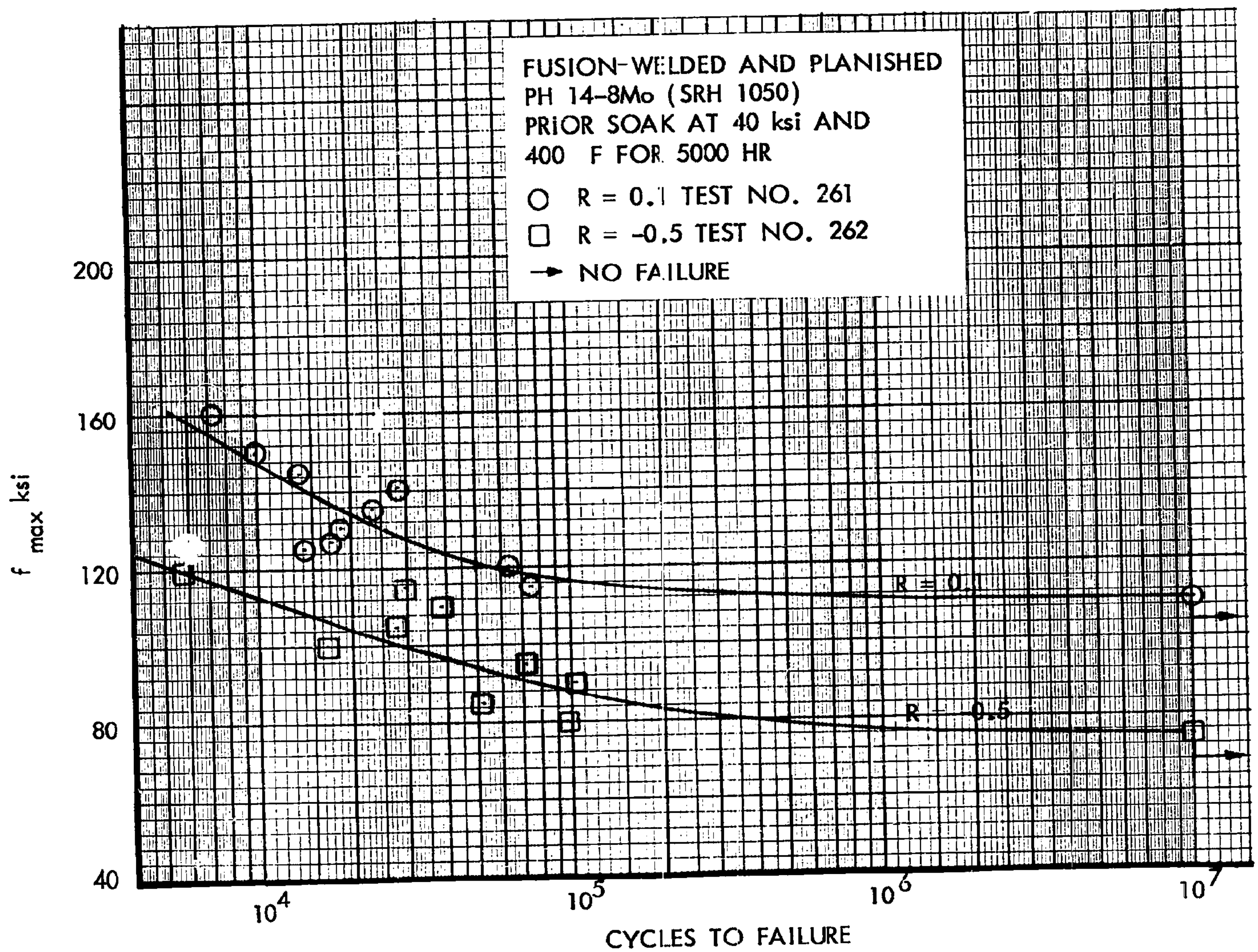


Figure 157. S-N Curves at Room Temperature, Fusion-Welded PH14-8Mo, R = Constant

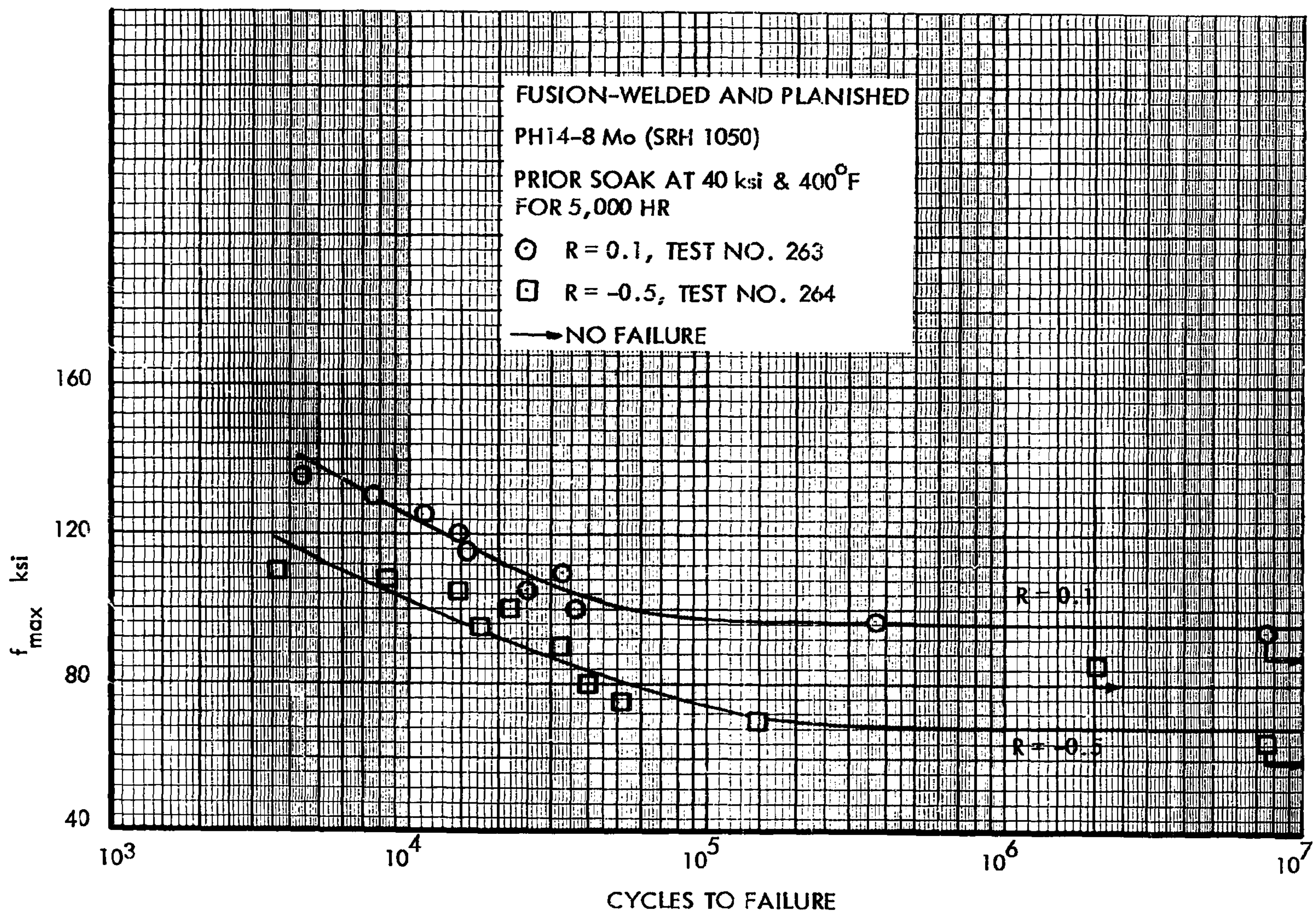


Figure 158. S-N Curves at 400°F, Fusion-Welded PH14-8Mo, R = Constant

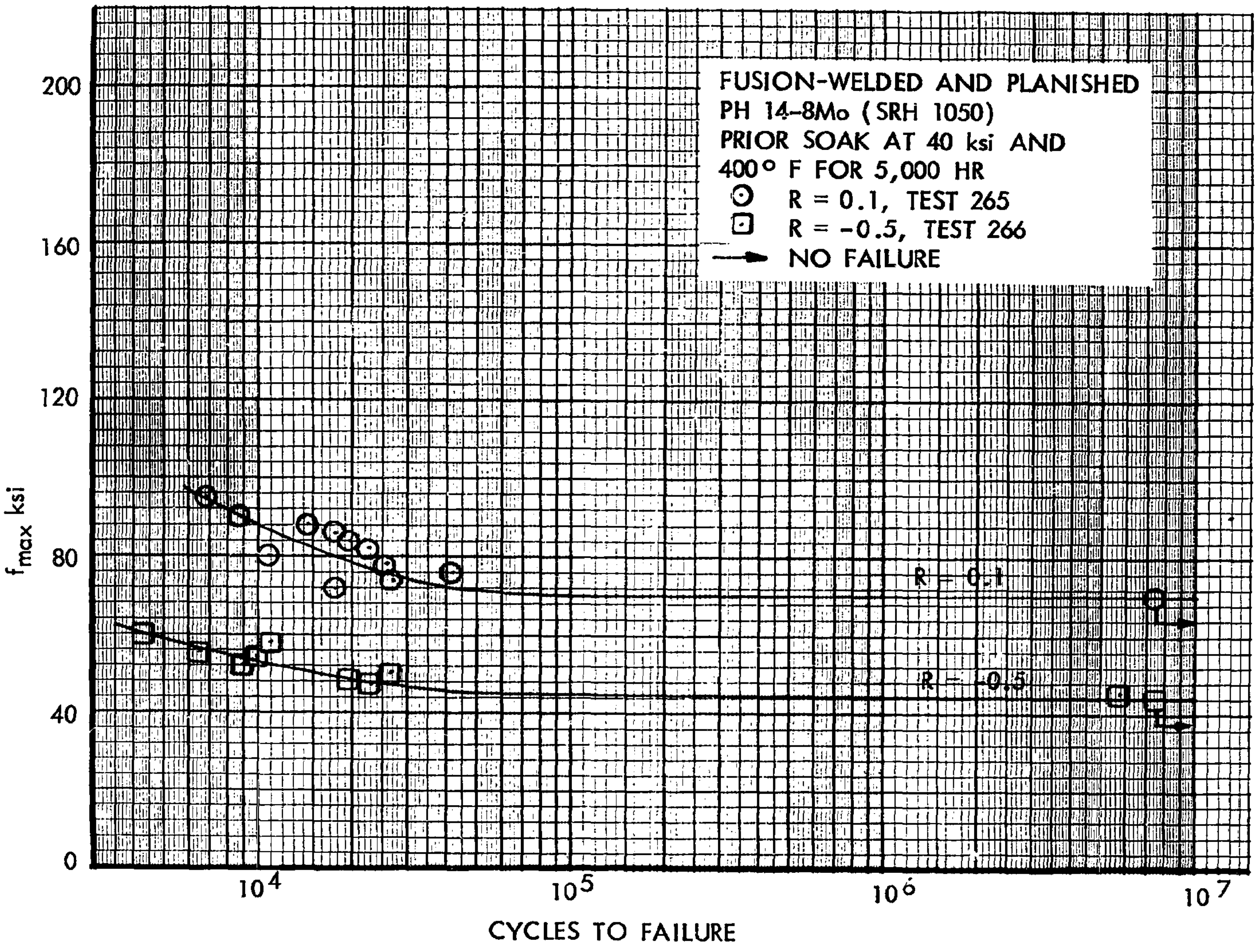


Figure 159. S-N Curves at 650°F, Fusion-Welded PH14-8Mo, R = Constant

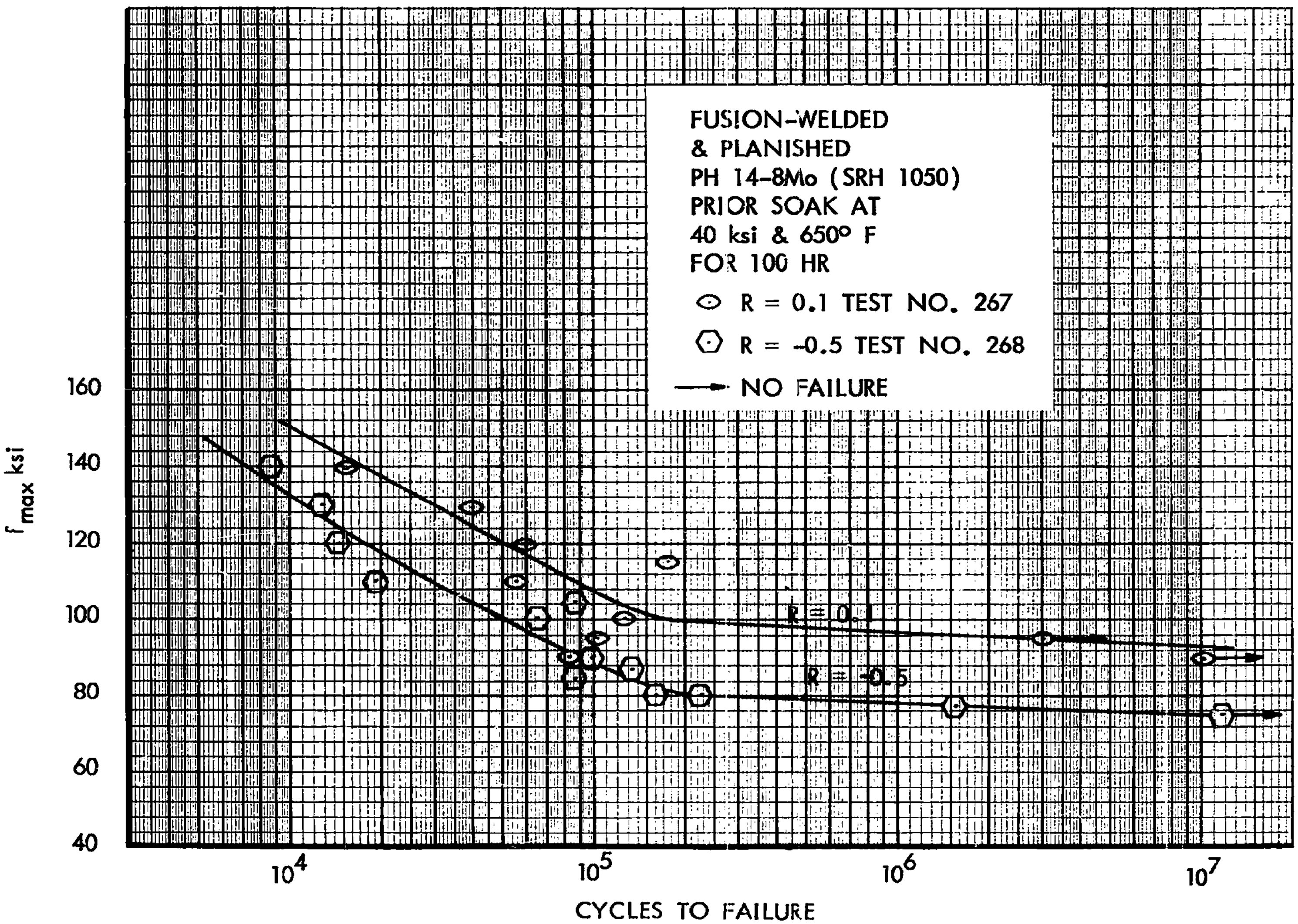


Figure 160. S-N Curves at Room Temperature, Fusion-Welded PH14-8Mo, R = Constant

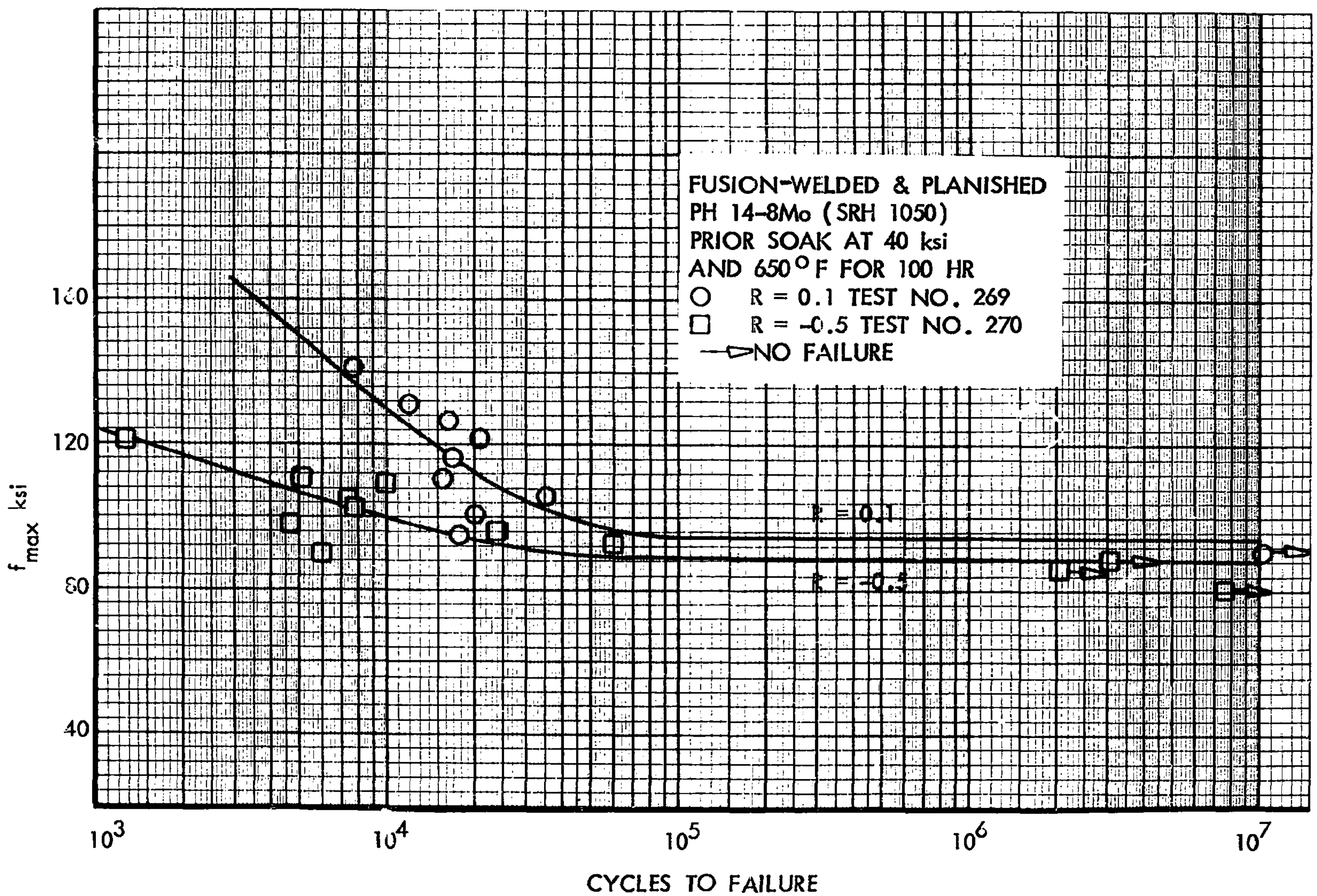


Figure 161. S-N Curves at 400°F, Fusion-Welded PH14-8 Mo, R = Constant

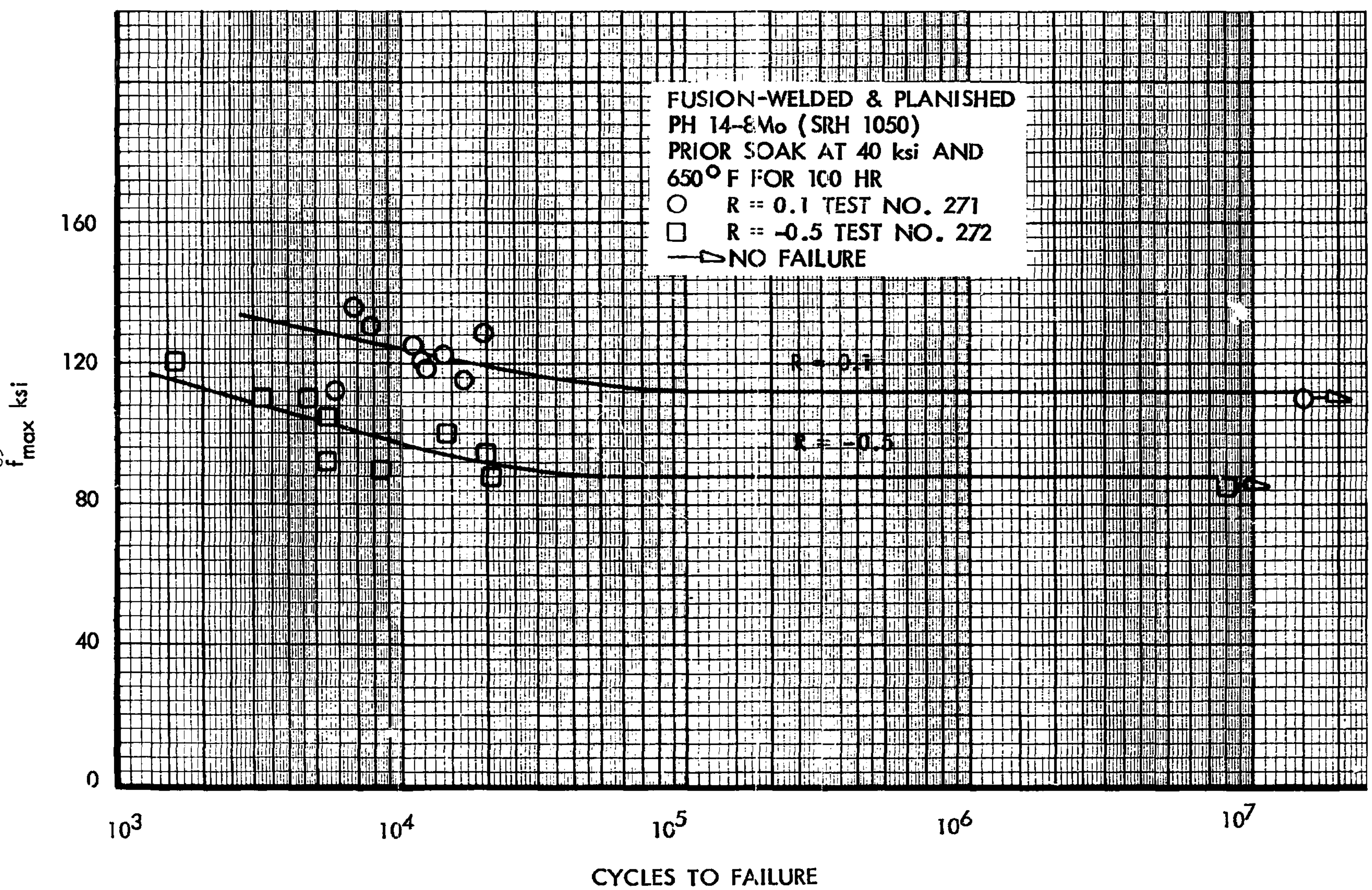


Figure 162. S-N Curves at 650°F, Fusion-Welded PH14-8 Mo, R = Constant

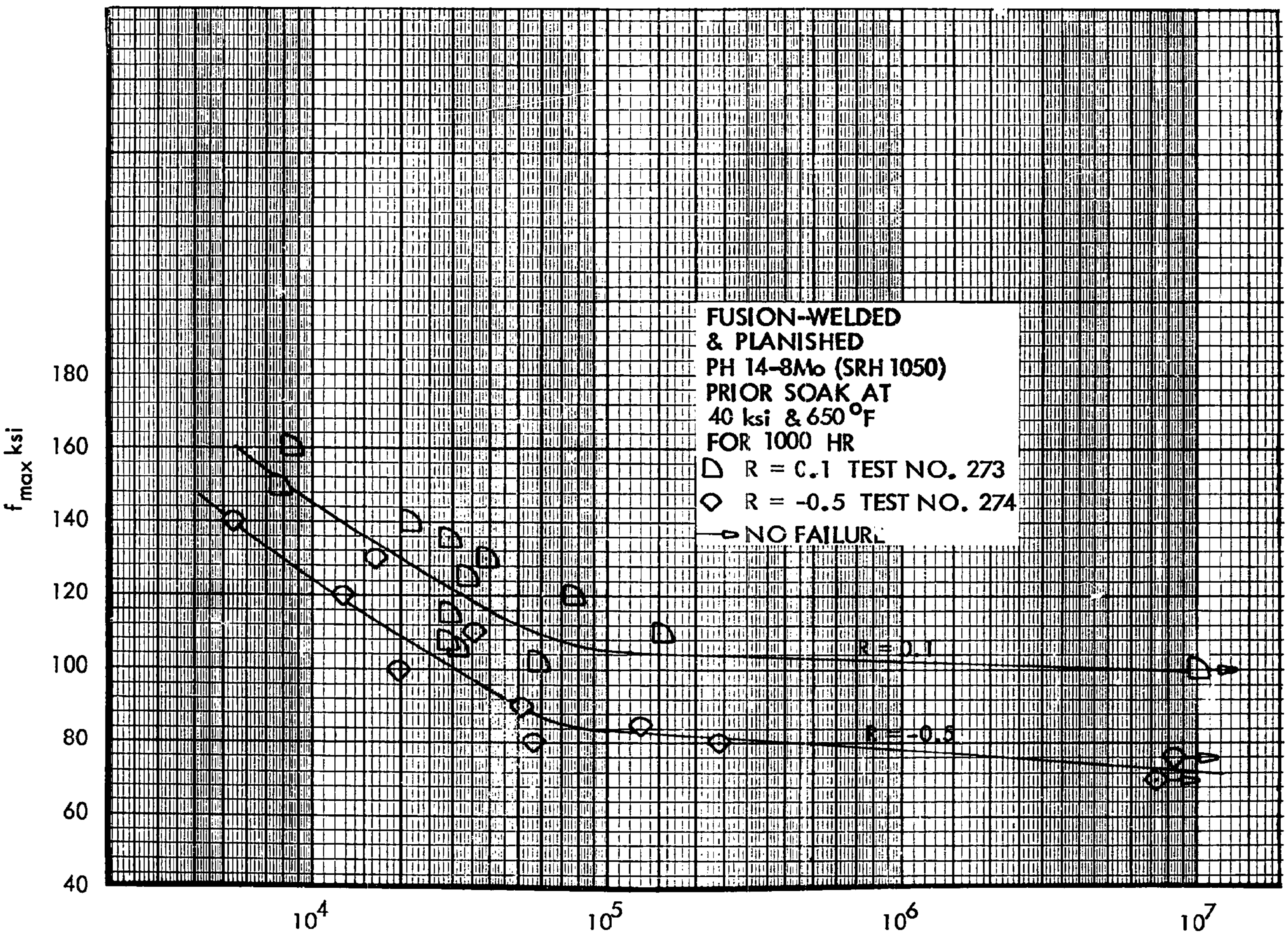


Figure 163. S-N Curves at Room Temperature, Fusion-Welded PH14-8Mo, R = Constant

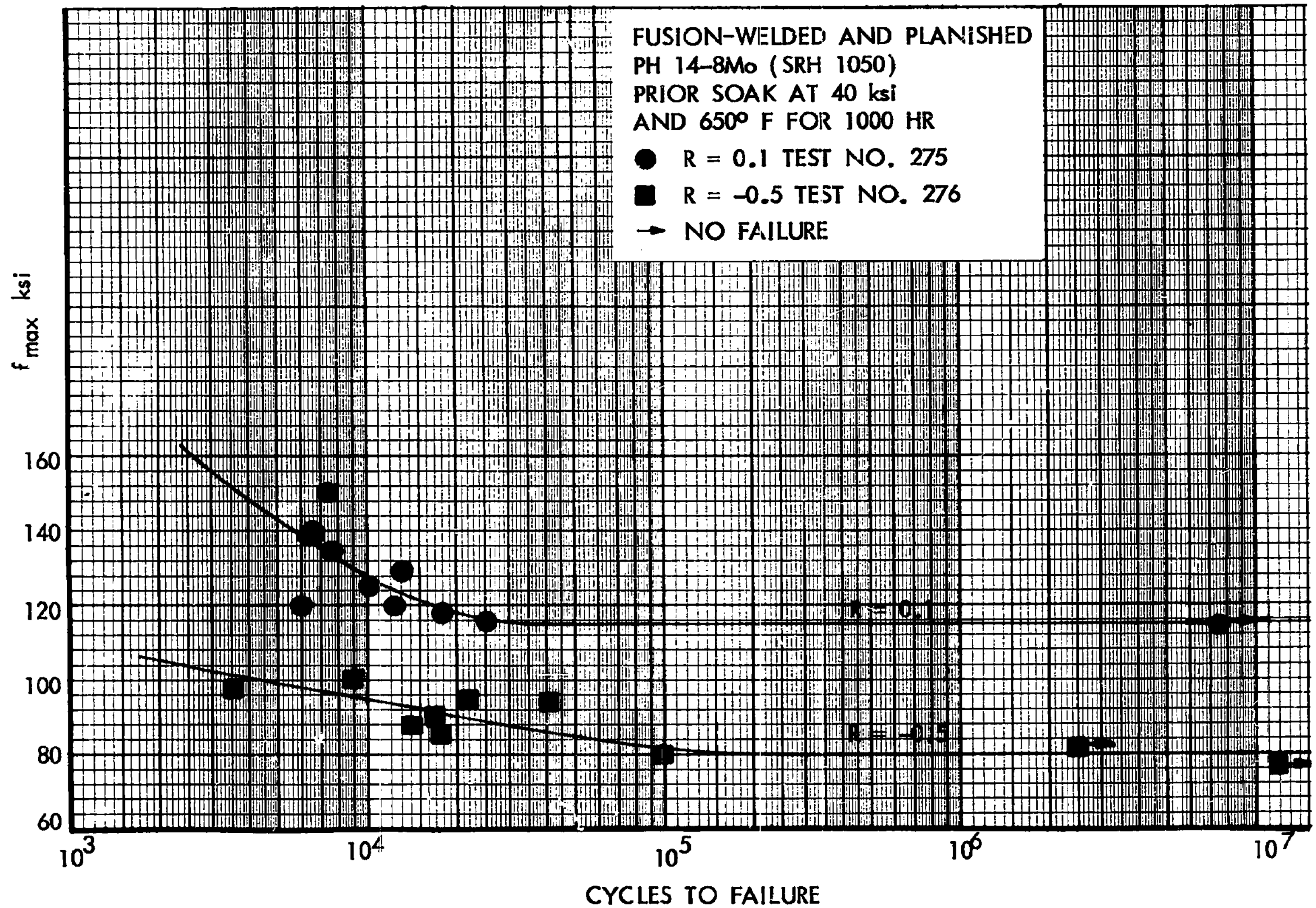


Figure 164. S-N Curves at 400°F, Fusion-Welded PH14-8Mo, R = Constant

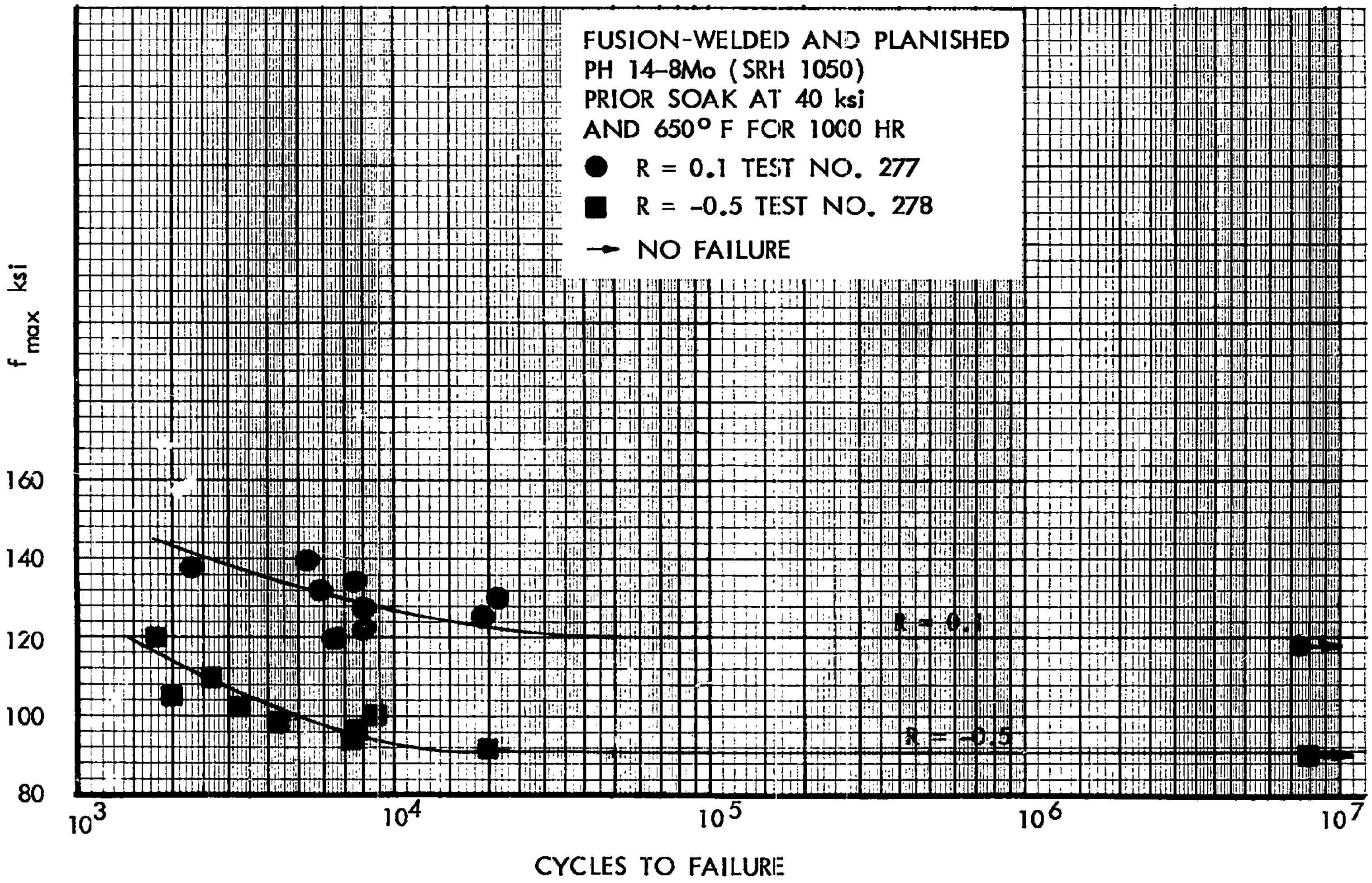


Figure 165. S-N Curves at 650°F, Fusion-Welded PH14-8Mo, R = Constant

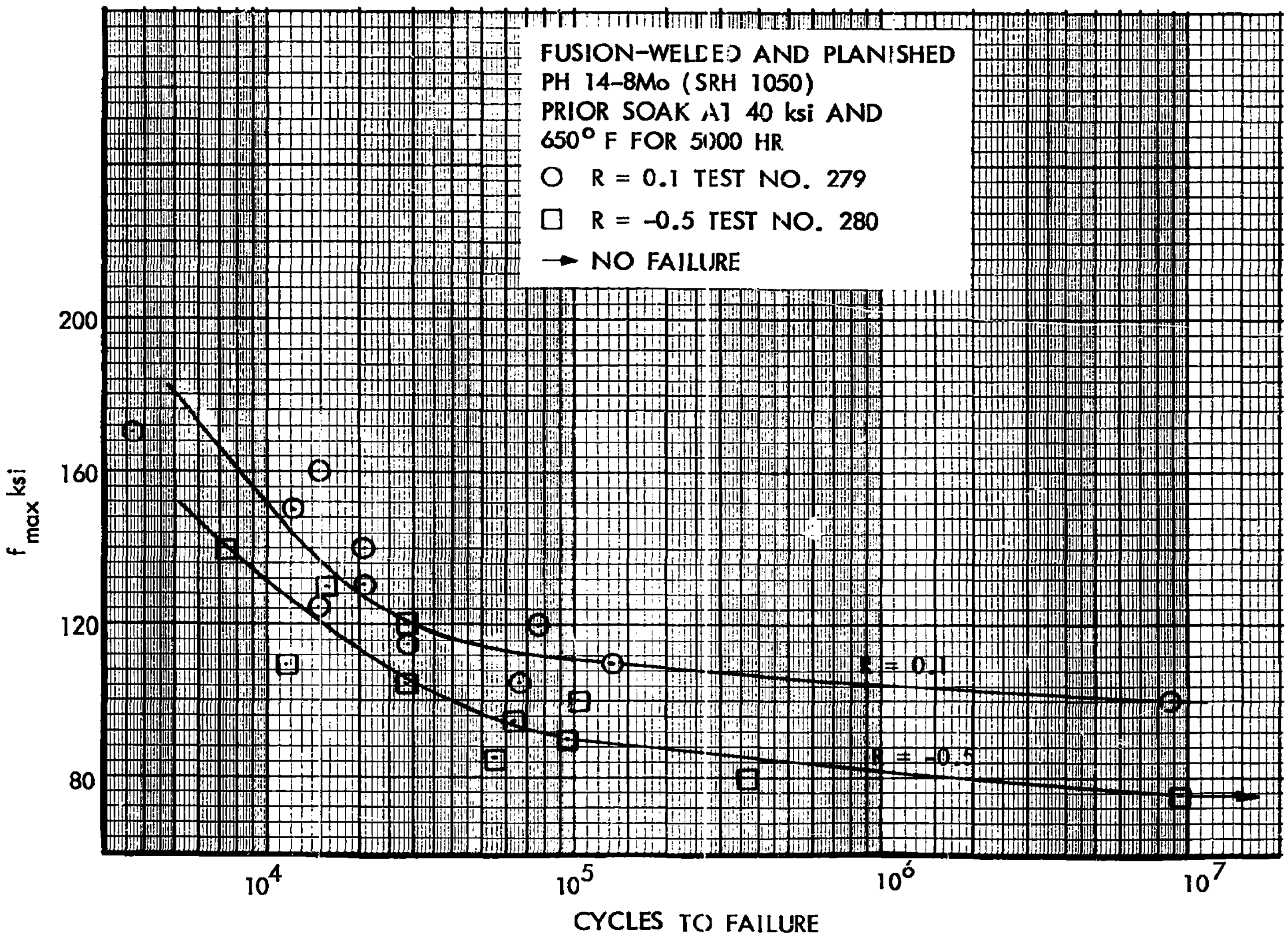


Figure 166. S-N Curves at Room Temperature, Fusion-Welded PH14-8Mo, R = Constant

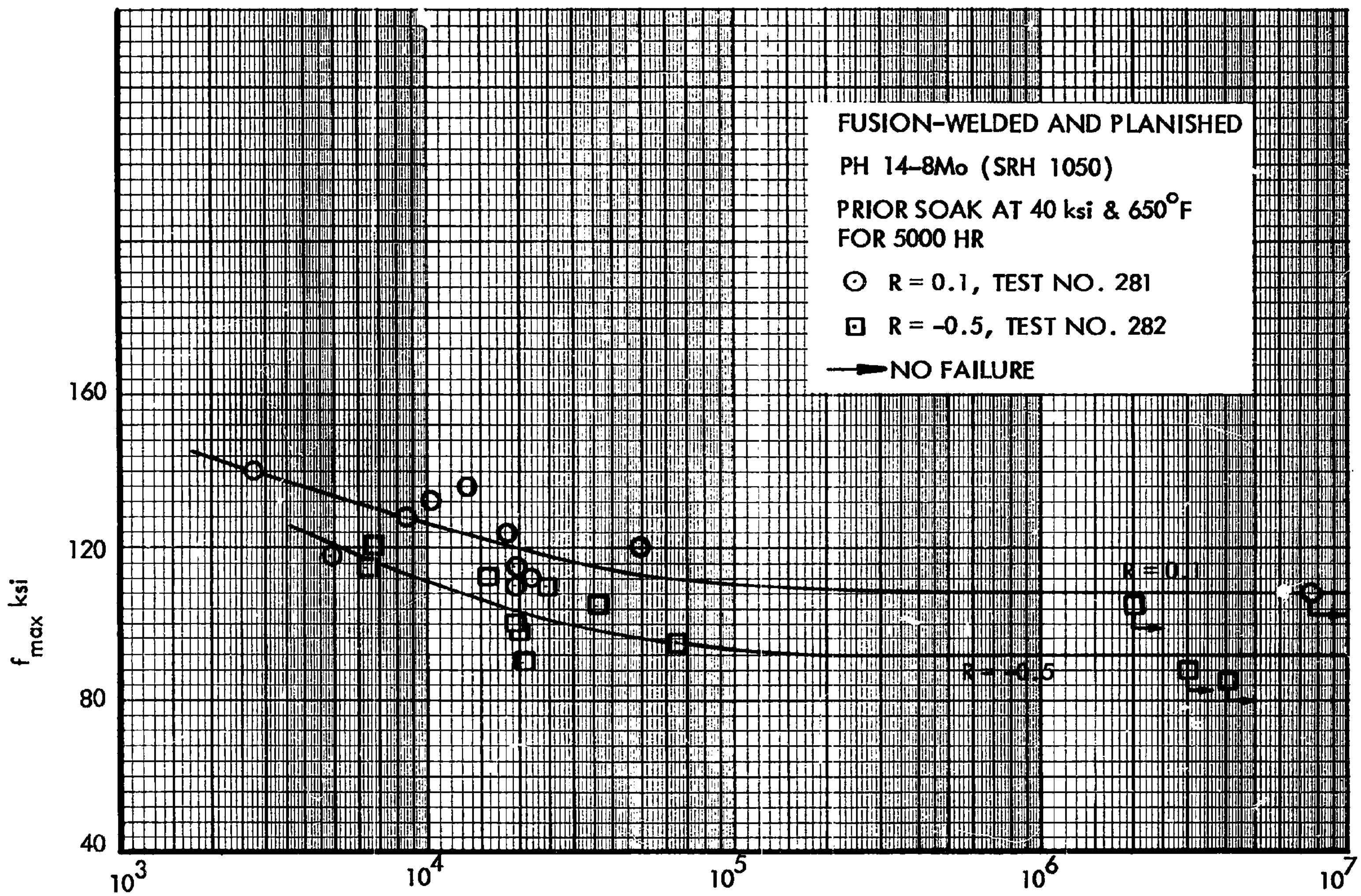


Figure 167. S-N Curves at 400°F, Fusion-Welded PH14-8Mo, R = Constant

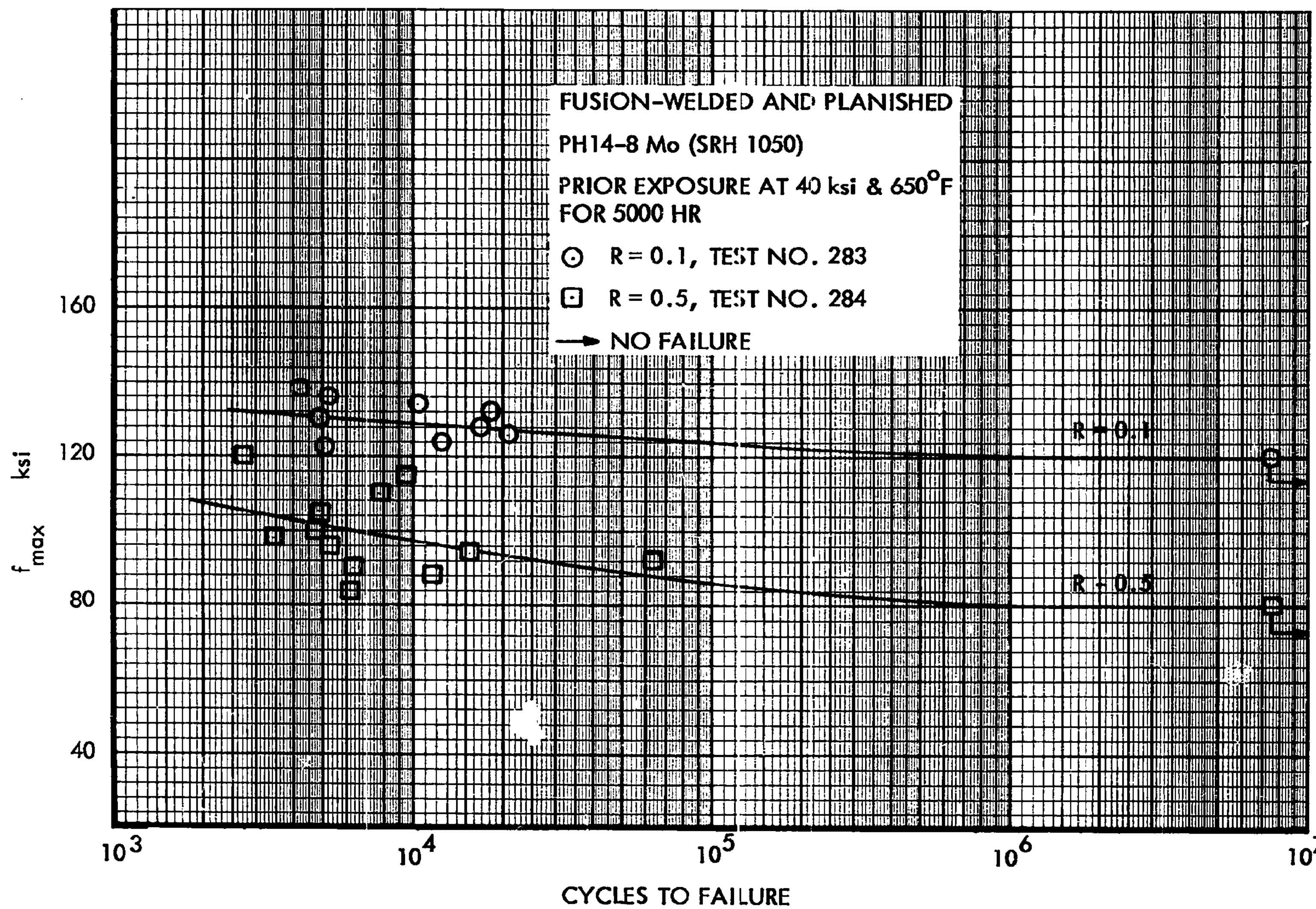


Figure 168. S-N Curves at 650°F, Fusion-Welded PH14-8Mo, R = Constant

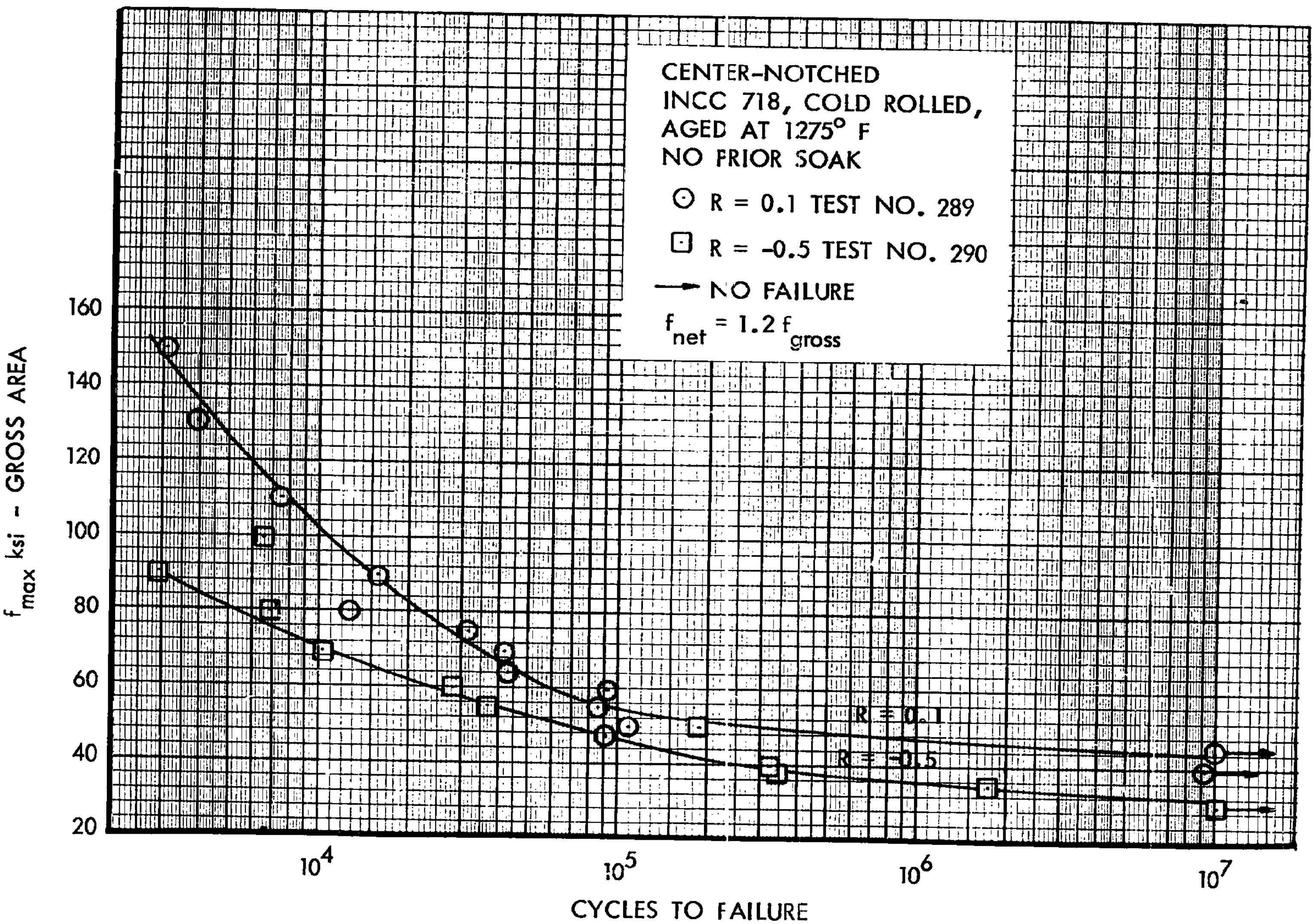


Figure 169. S-N Curves at Room Temperature, Center-Notched INCO 718, R = Constant

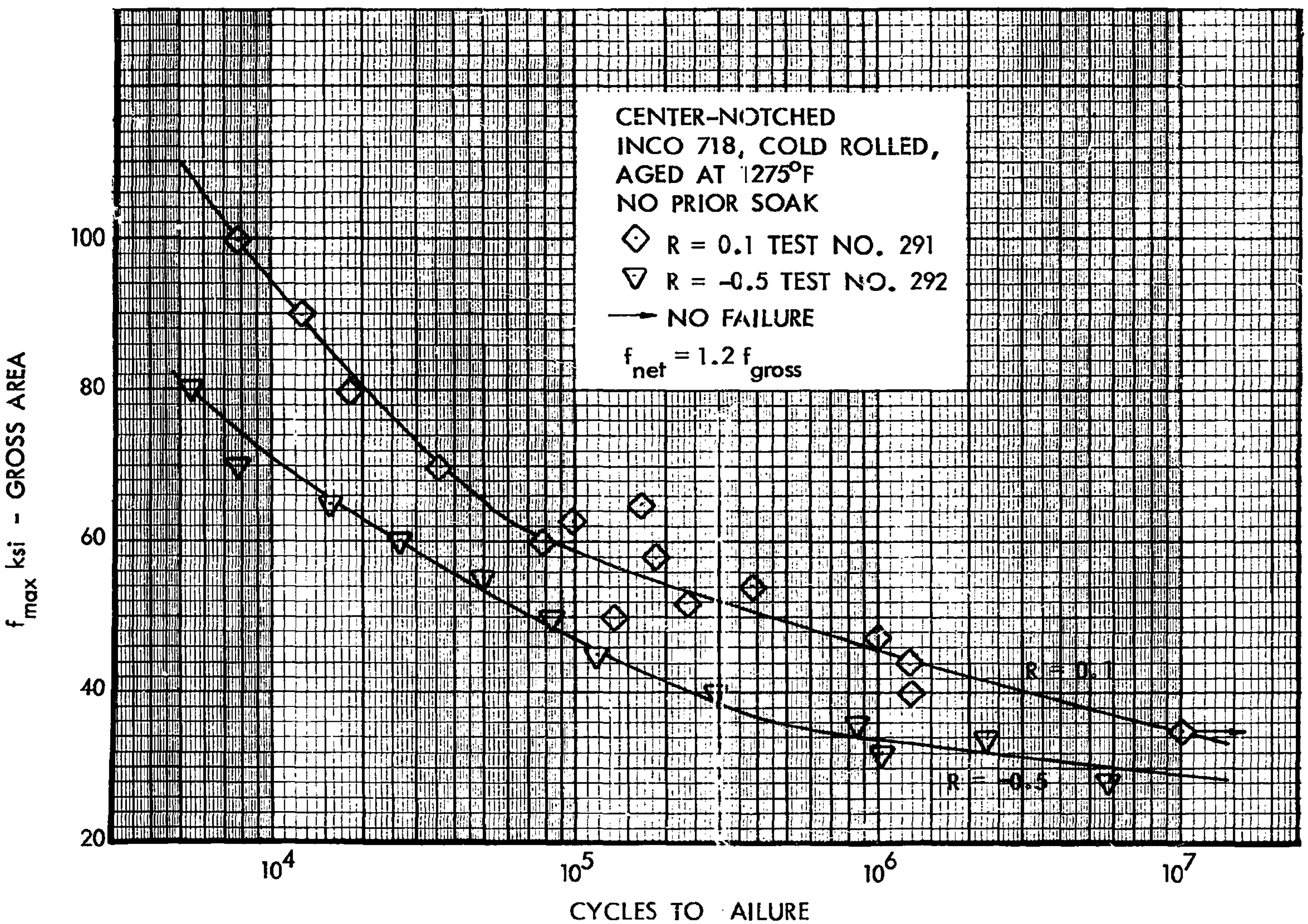


Figure 170. S-N Curves at 400°F, Center-Notched INCO 718, R = Constant

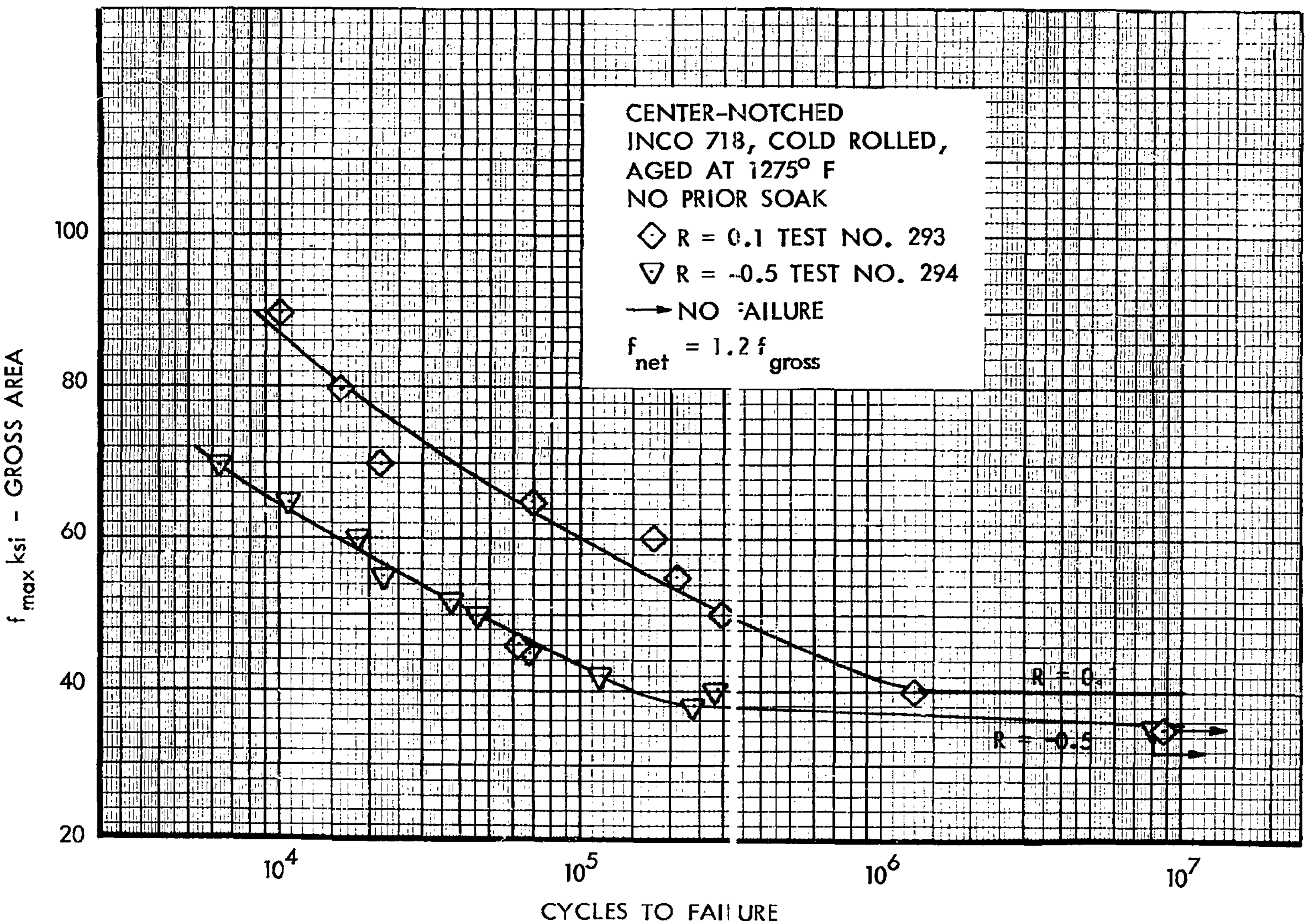


Figure 171. S-N Curves at 650°F, Center-Notched INCO 718, R = Constant

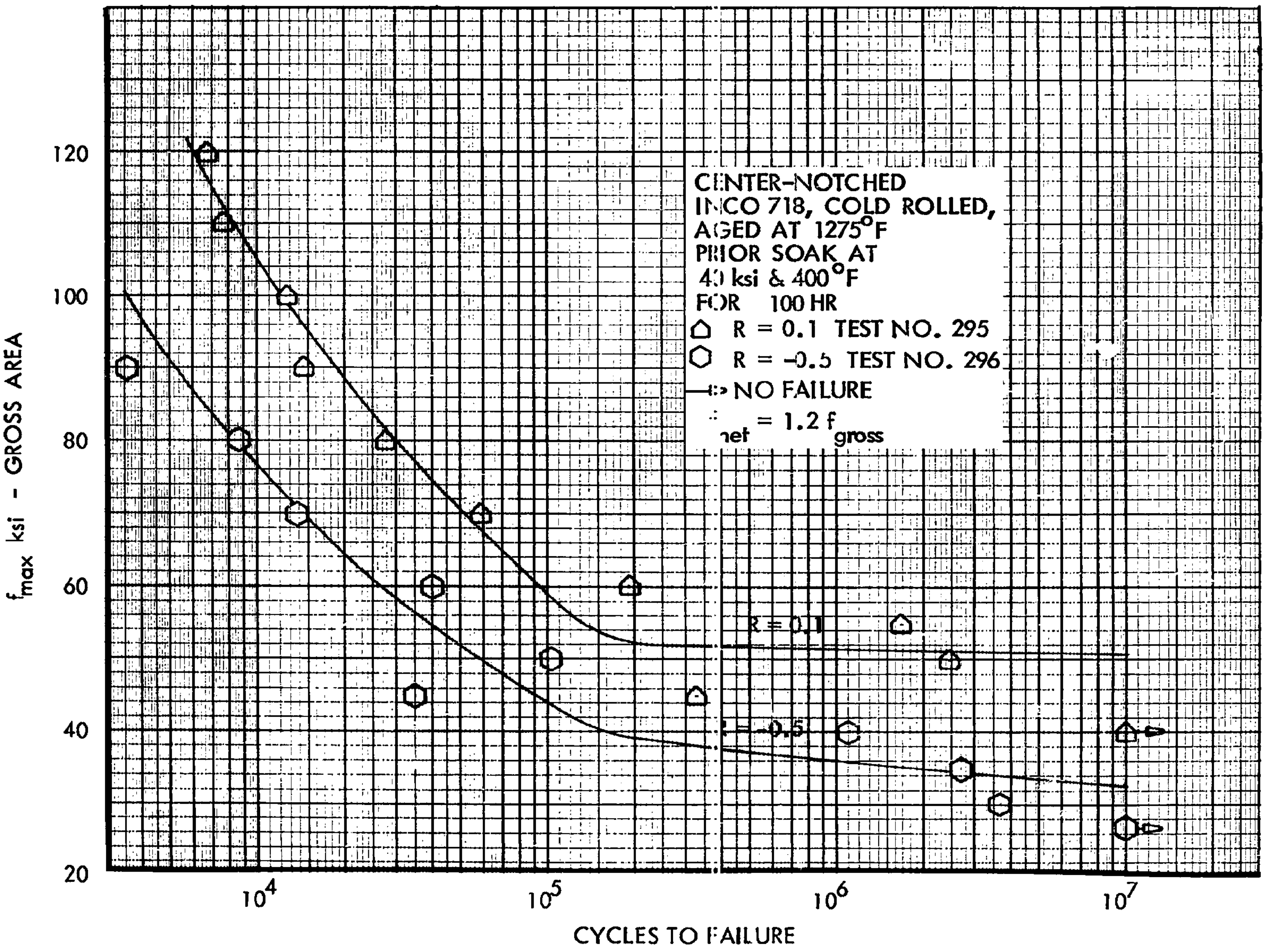


Figure 172. S-N Curves at Room Temperature, Center-Notched INCO 718, R = Constant

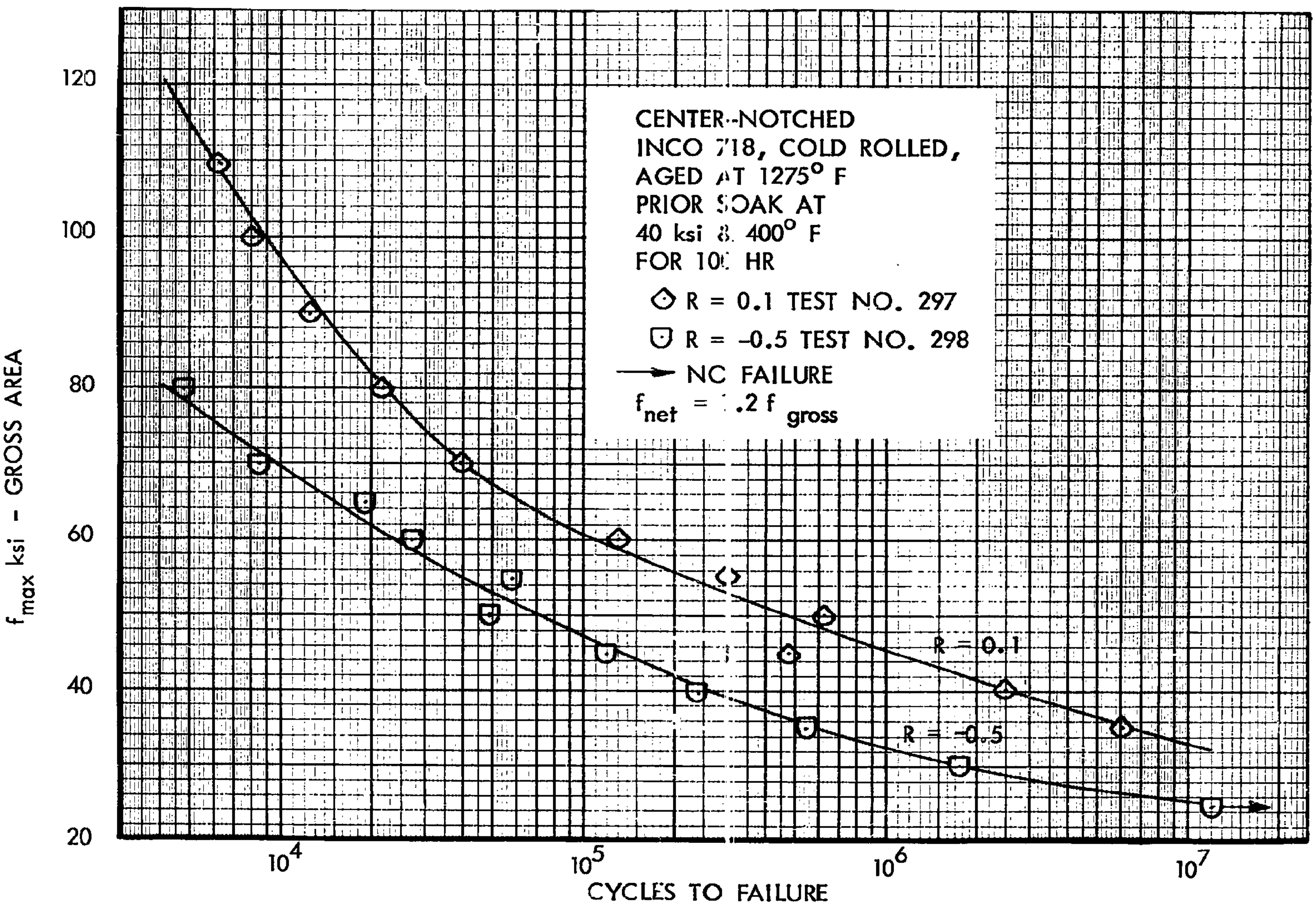


Figure 173. S-N Curves at 400°F, Center-Notched INCO 718, R = Constant

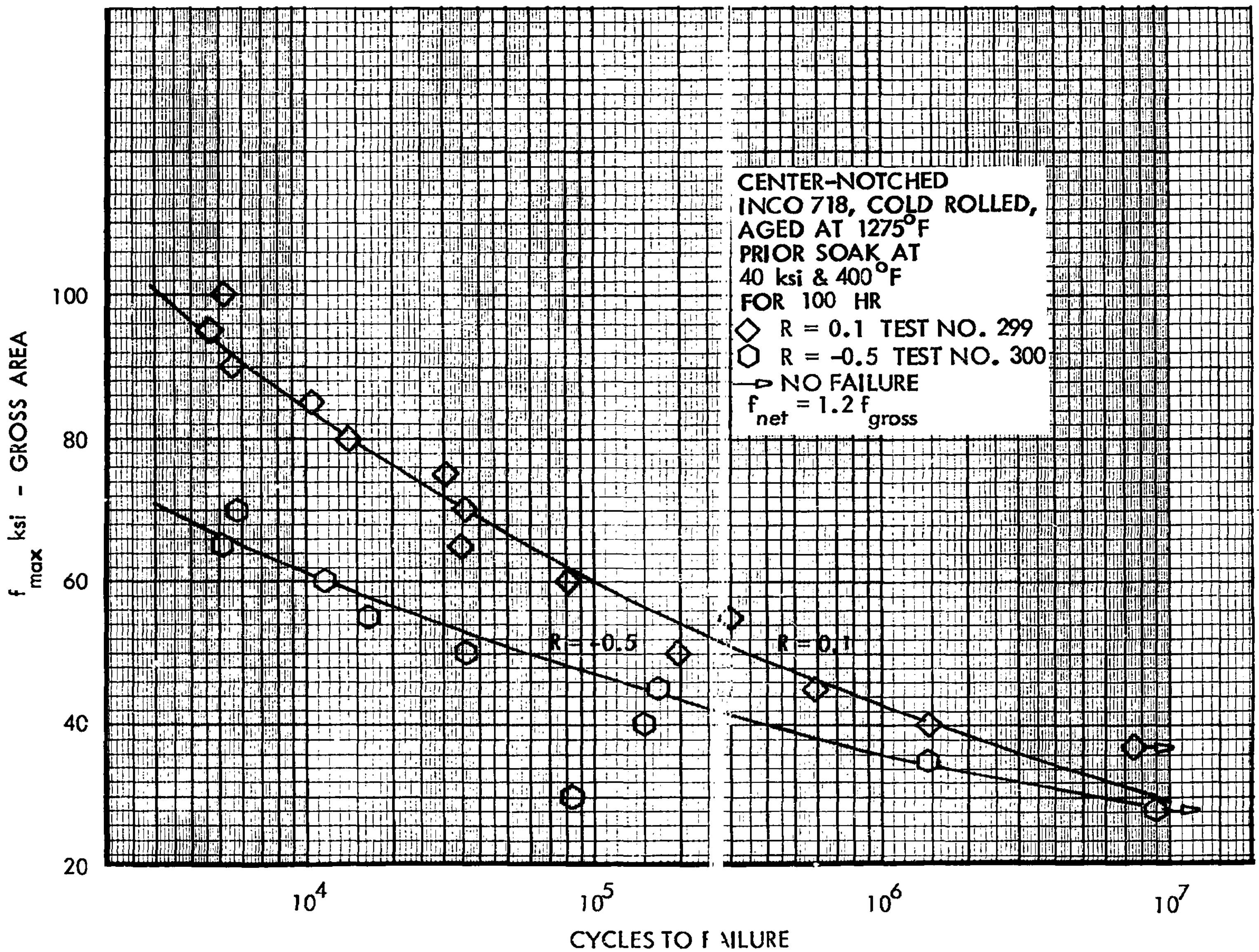


Figure 174. S-N Curves at 650°F, Center-Notched INCO 718, R = Constant

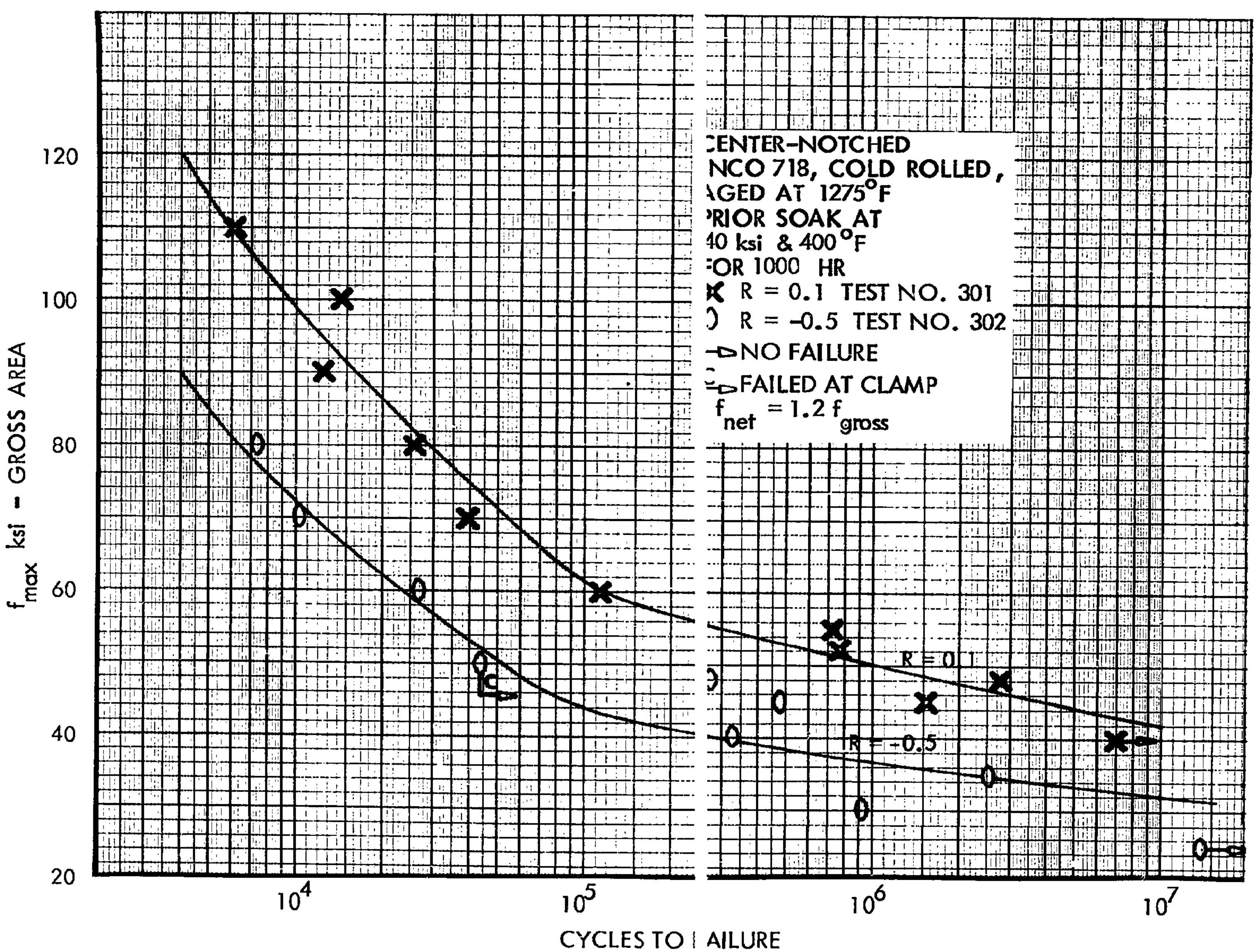


Figure 175. S-N Curves at Room Temperature, Center-Notched INCO 718, R = Constant

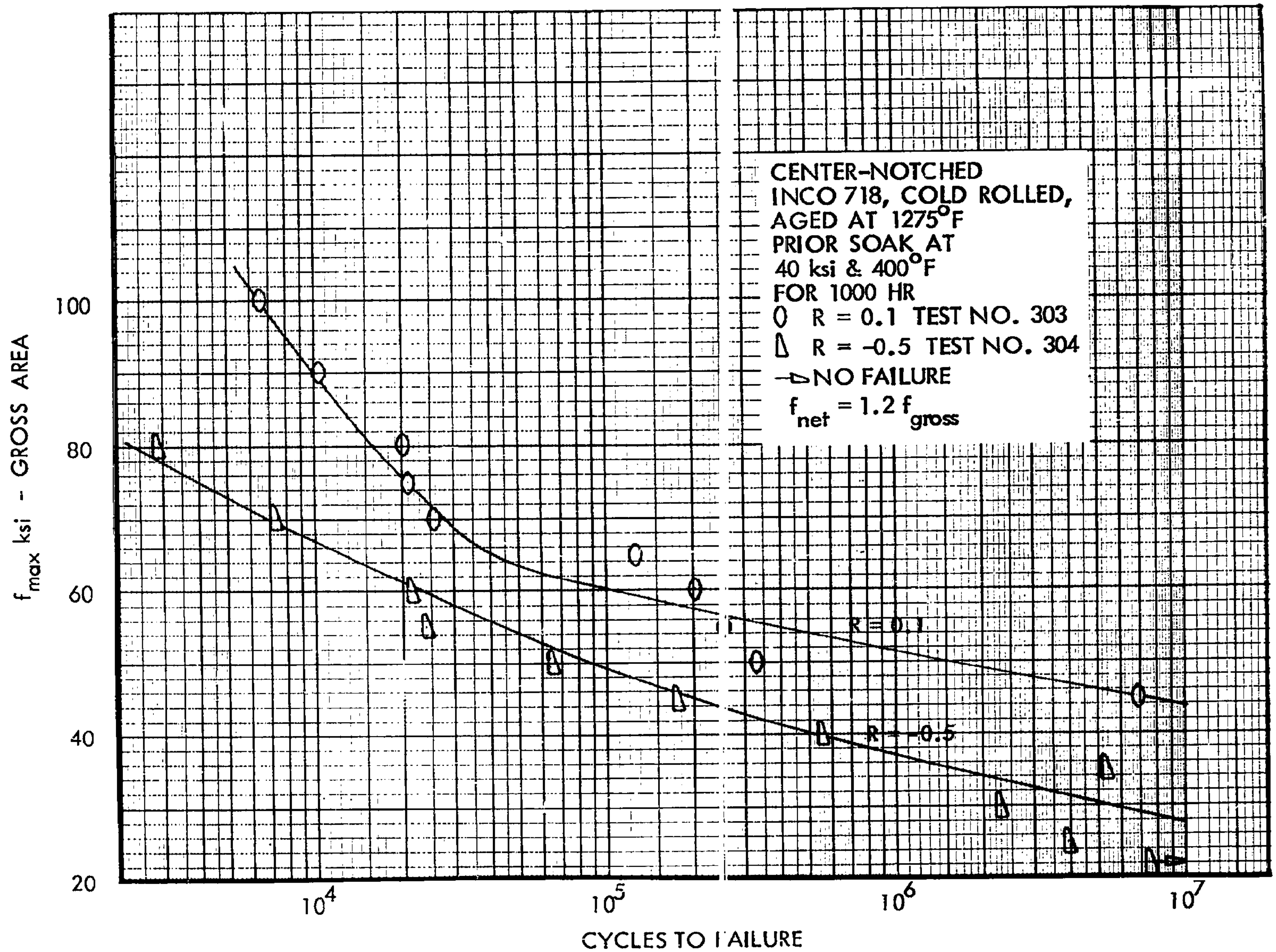


Figure 176. S-N Curves at 400°F, Center-Notched INCO 718, R = Constant

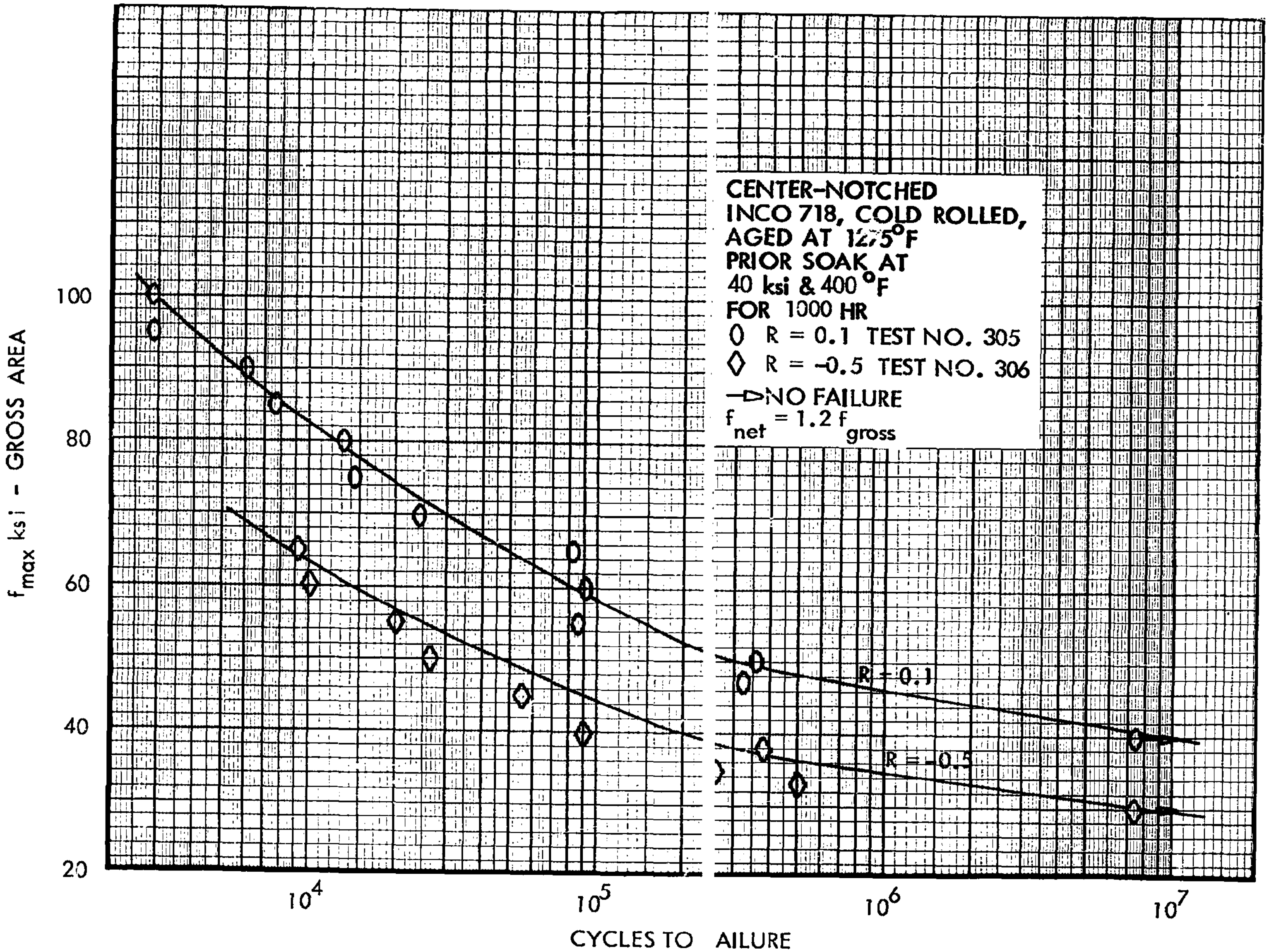


Figure 177. S-N Curves at 650°F, Center-Notched INCO 718, R = Constant

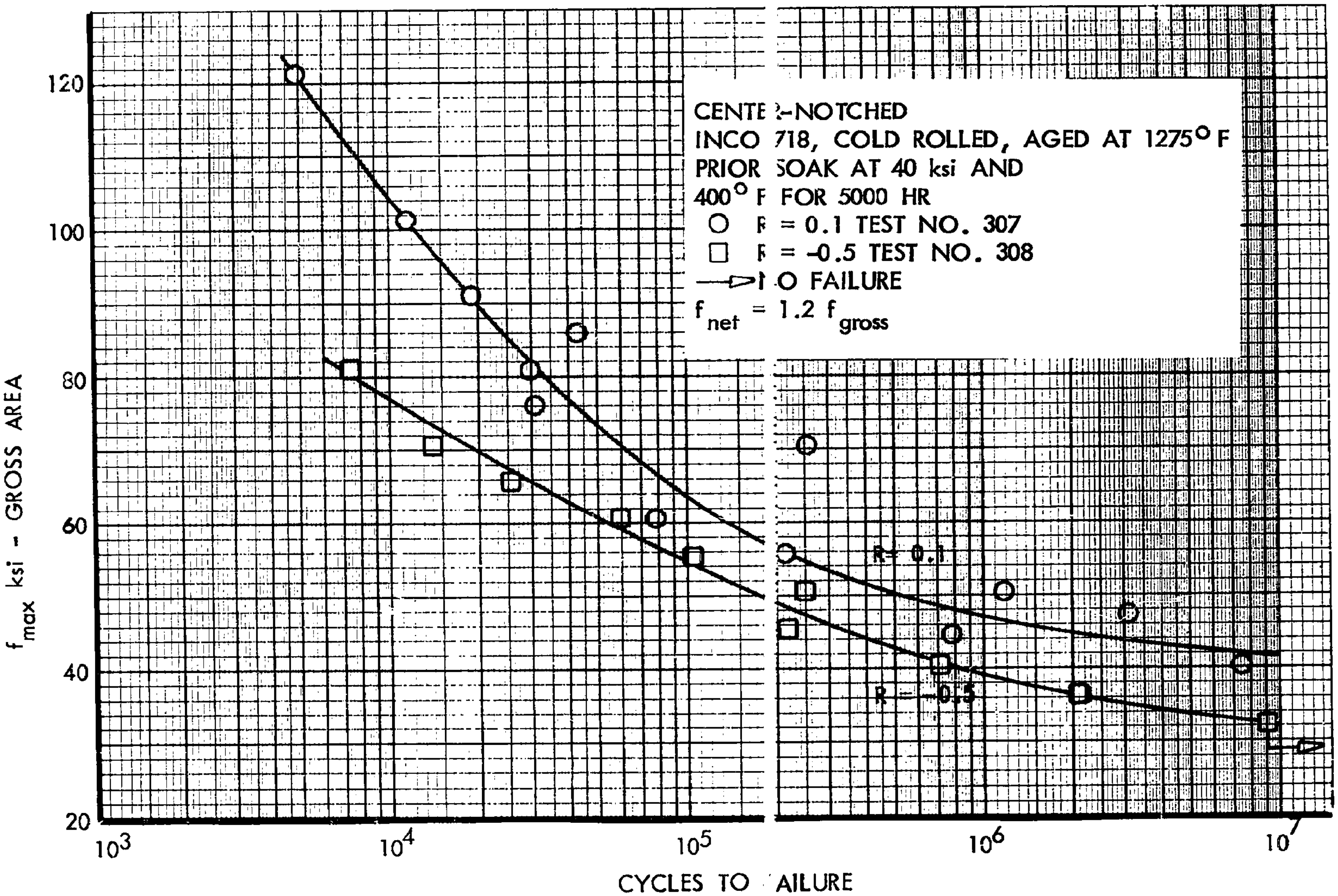


Figure 178. S-N Curves at Room Temperature, Center-Notched INCO 718, R = Constant

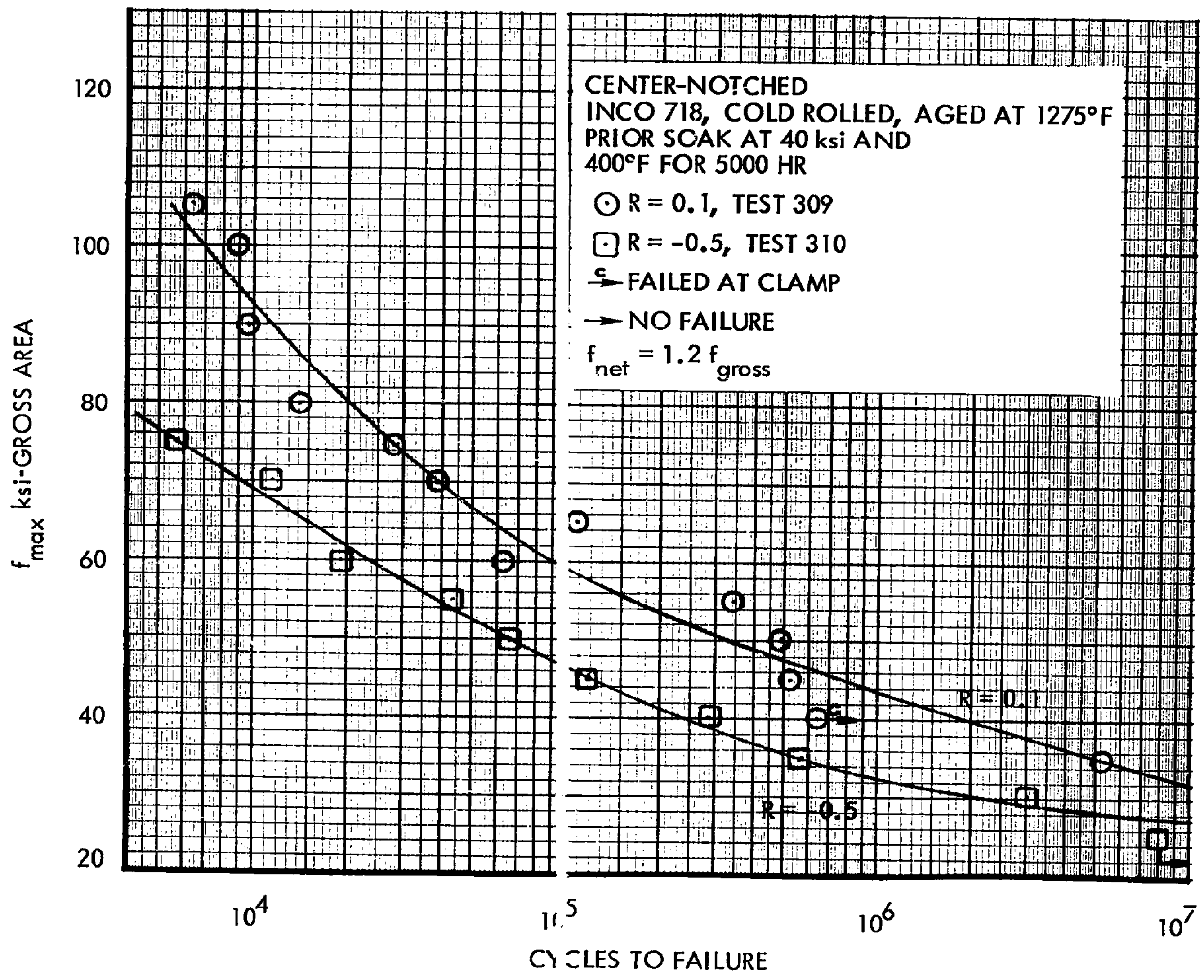


Figure 179. S-N Curves at 400°F, Center-Notched INCO 718, R = Constant

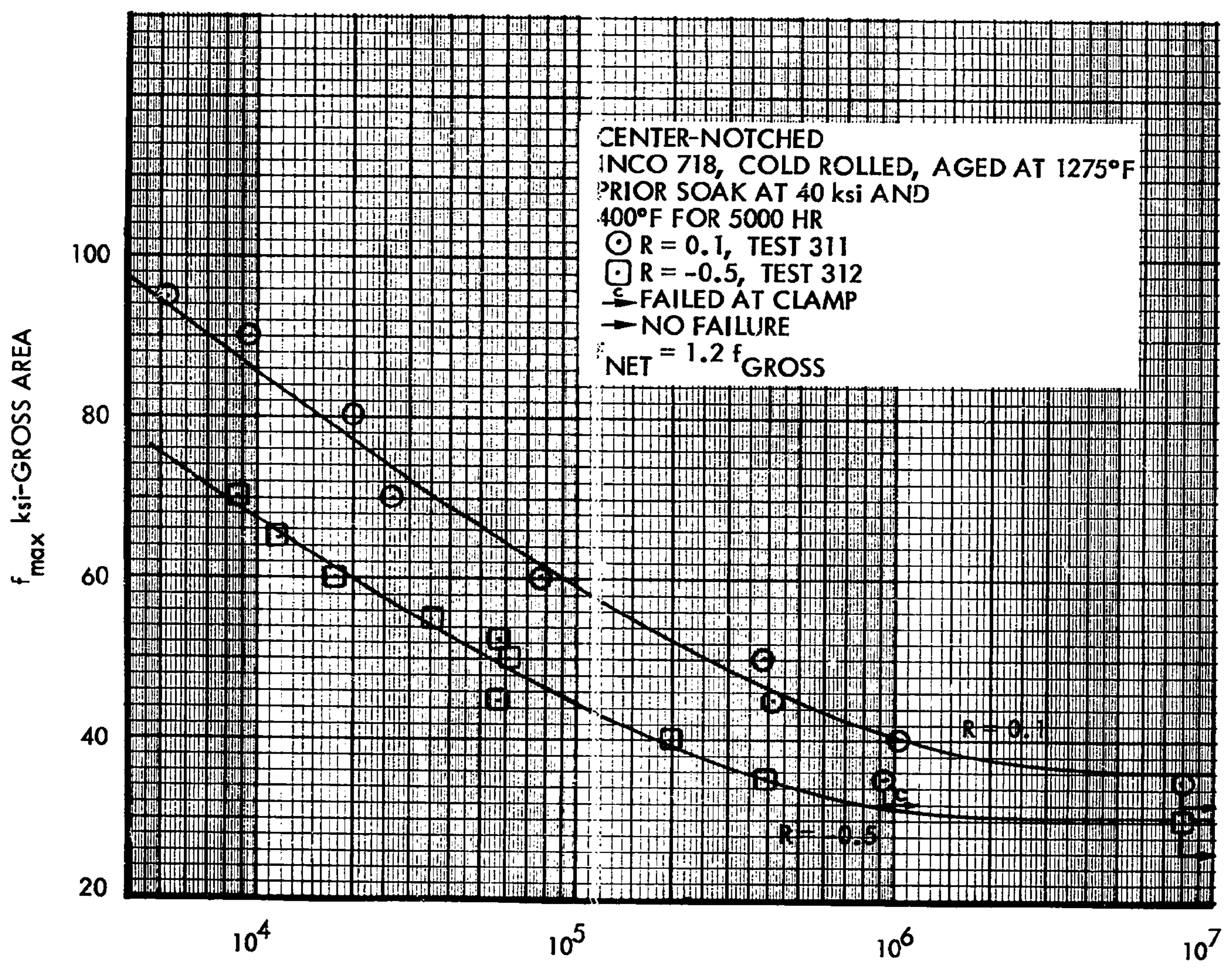


Figure 180. S-N Curves at 650°F, Center-Notched INCO 718, R = Constant

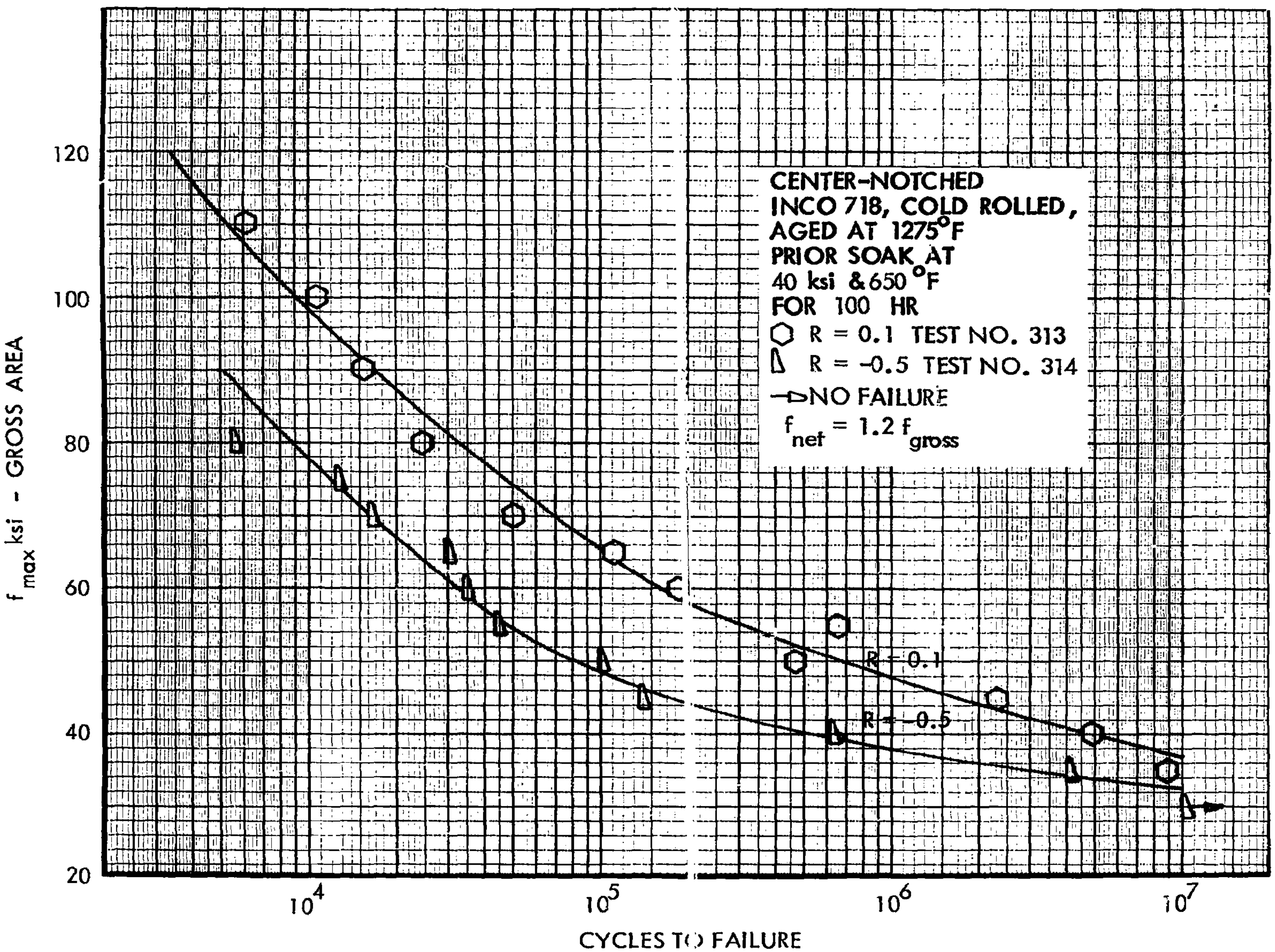


Figure 181. S-N Curves at Room Temperature, Center-Notched INCO 718, R = Constant

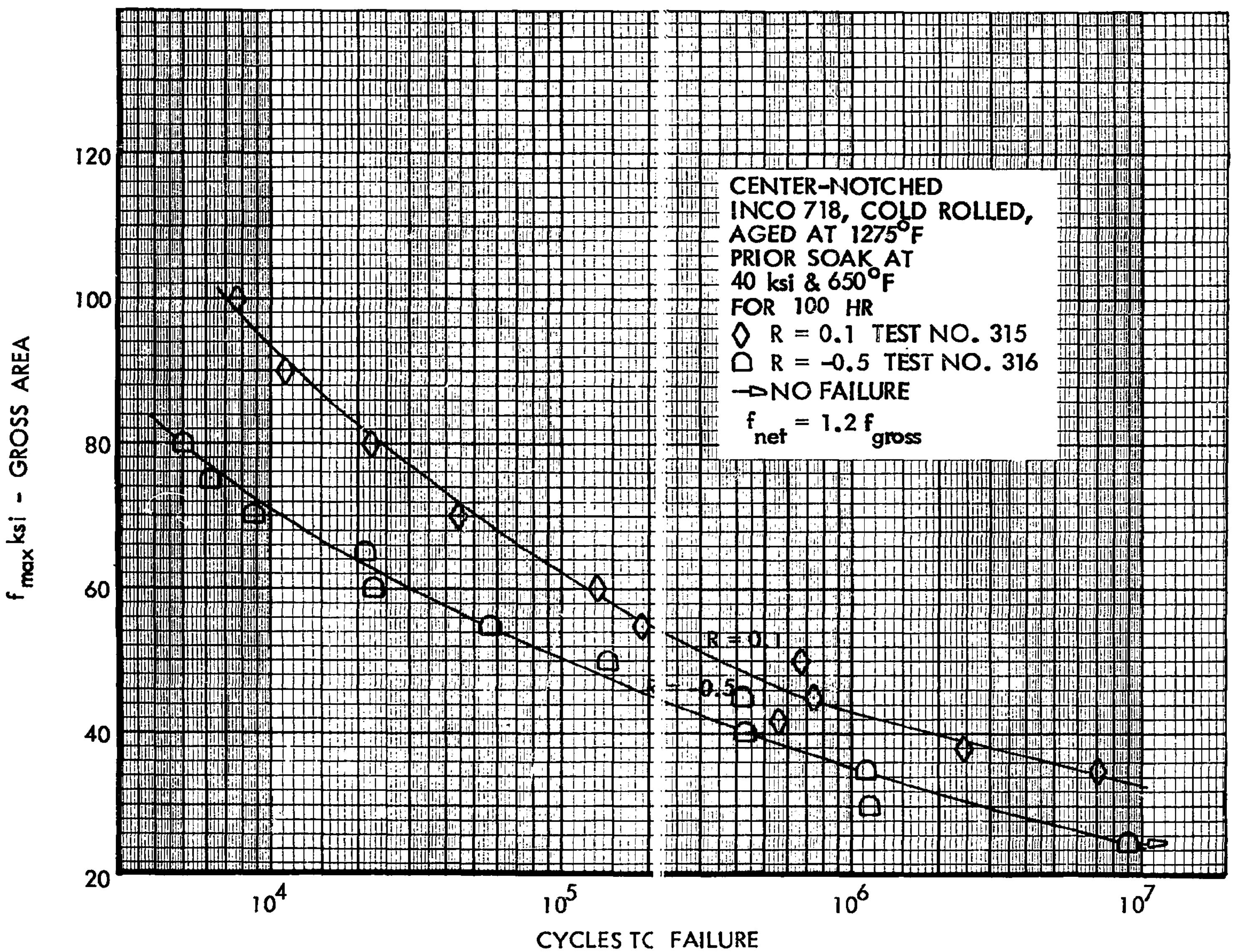


Figure 182. S-N Curves at 400°F Center-Notched INCO 718, R = Constant

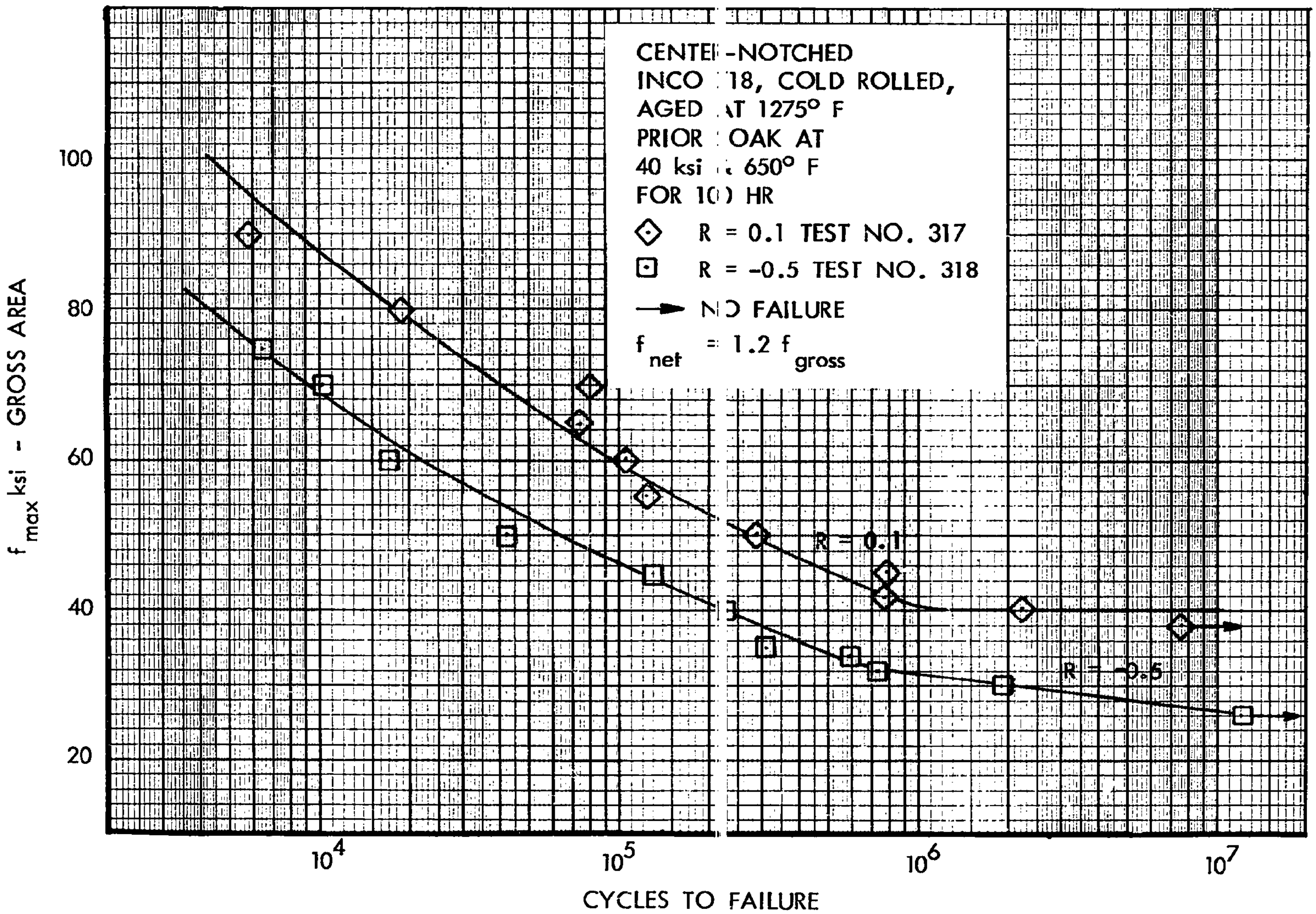


Figure 183. S-N Curves at 650°F Center-Notched INCO 718, R = Constant

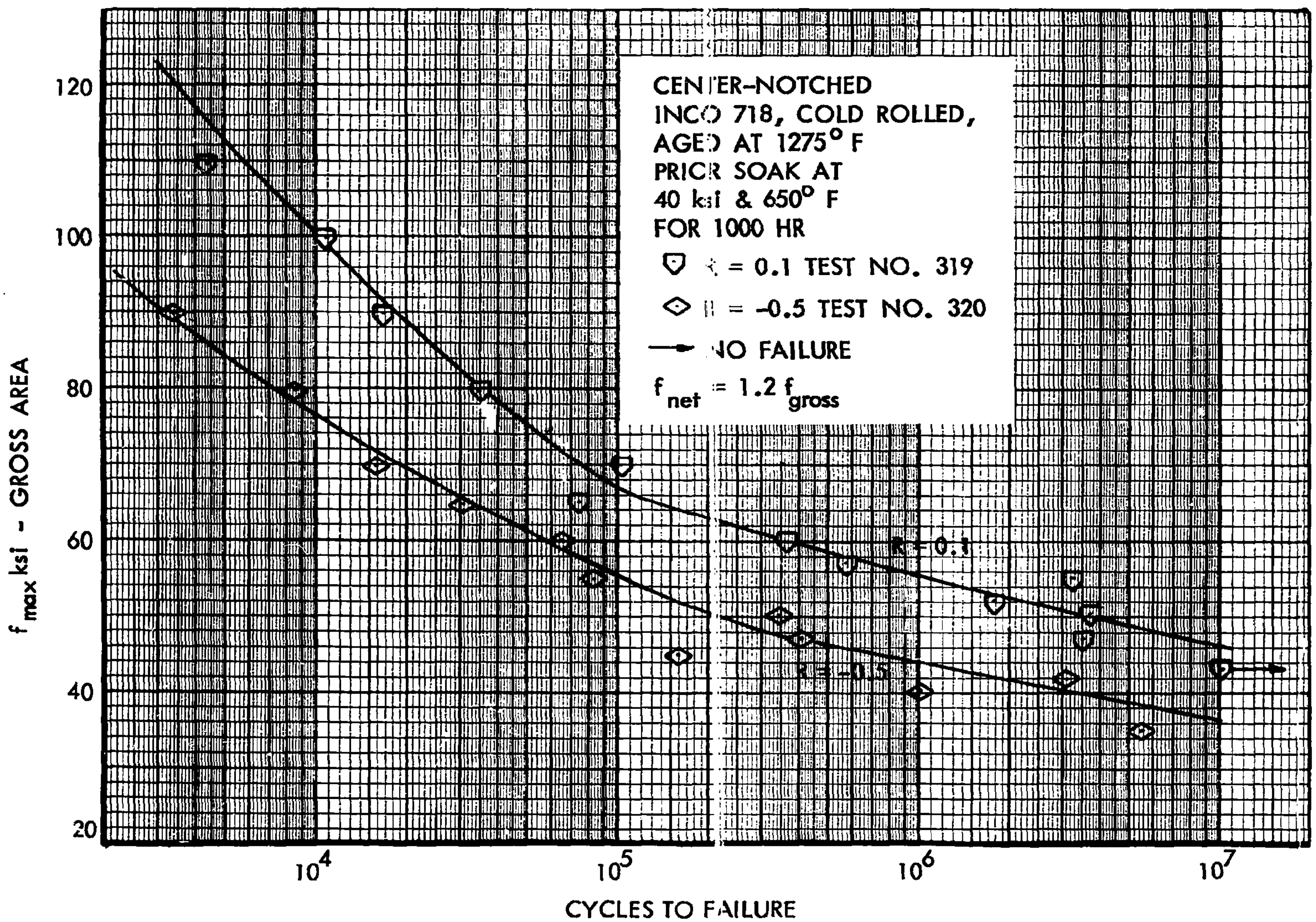


Figure 184. S-N Curves at Room Temperature, Center-Notched INCO 718, R = Constant

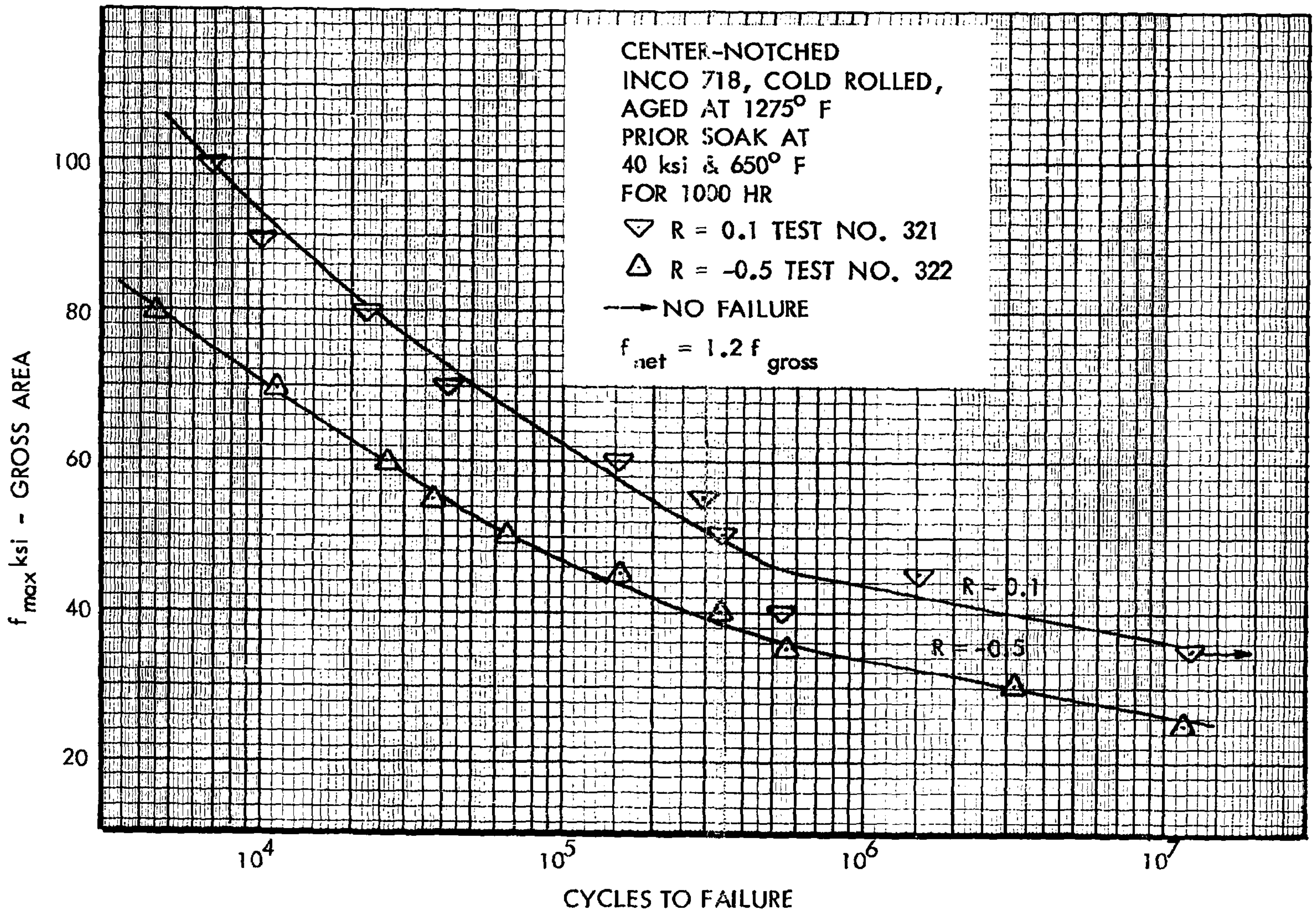


Figure 185. S-N Curves at 400°F, Center-Notched INCO 718, R = Constant

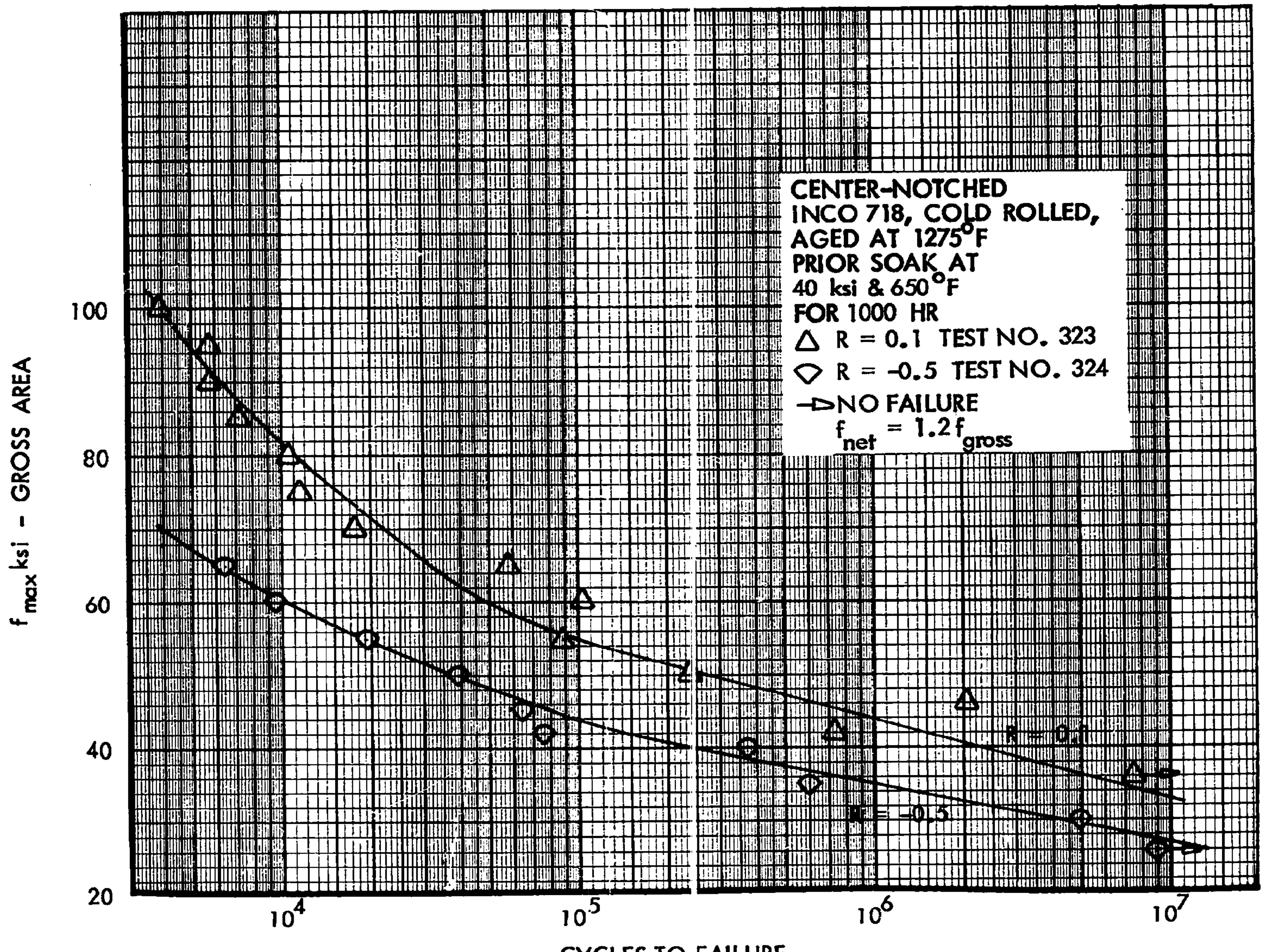


Figure 186. S-N Curves at 650°F, Center-Notched INCO 718, R = Constant

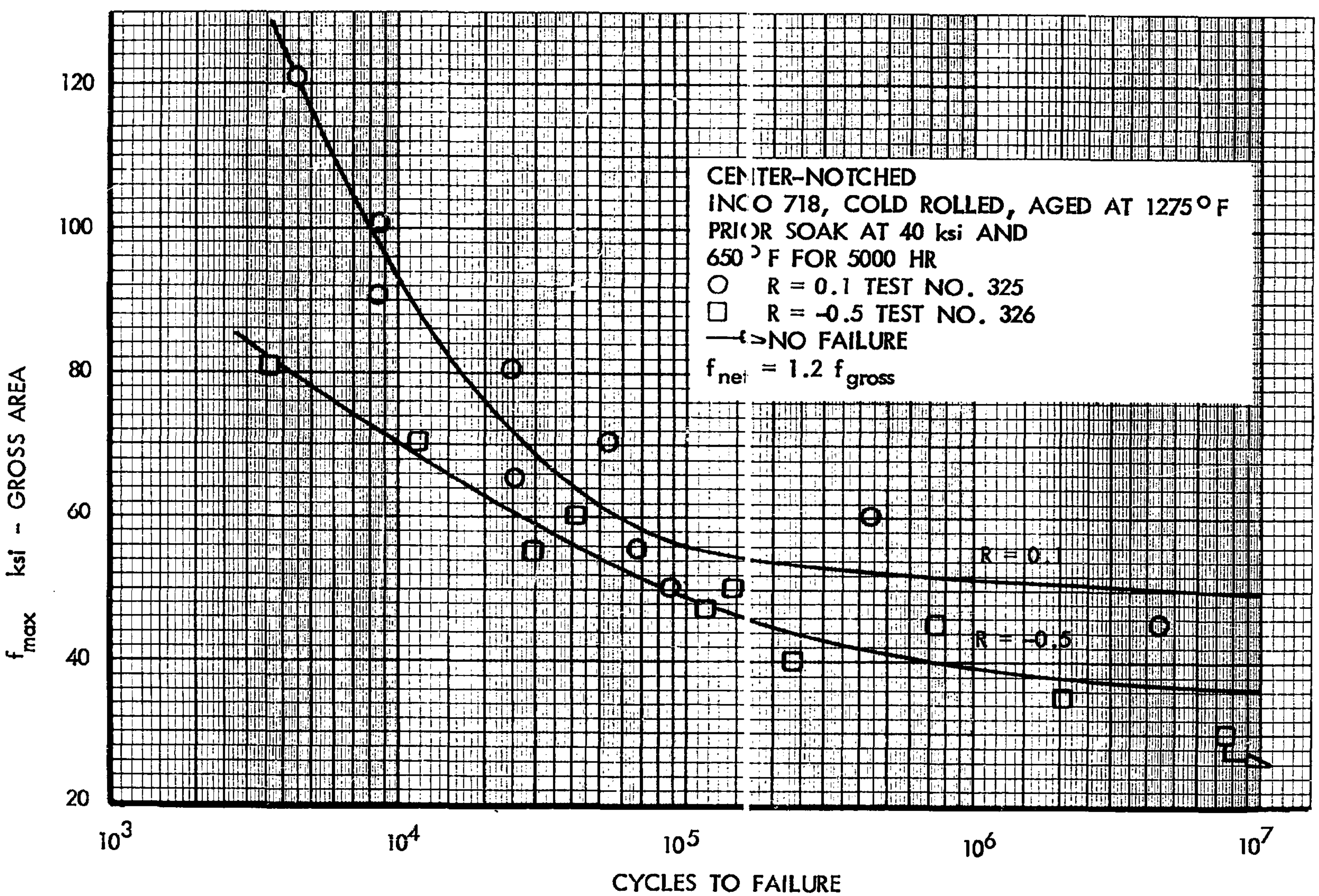


Figure 187. S-N Curves at Room Temperature, Center-Notched INCO 718, R = Constant

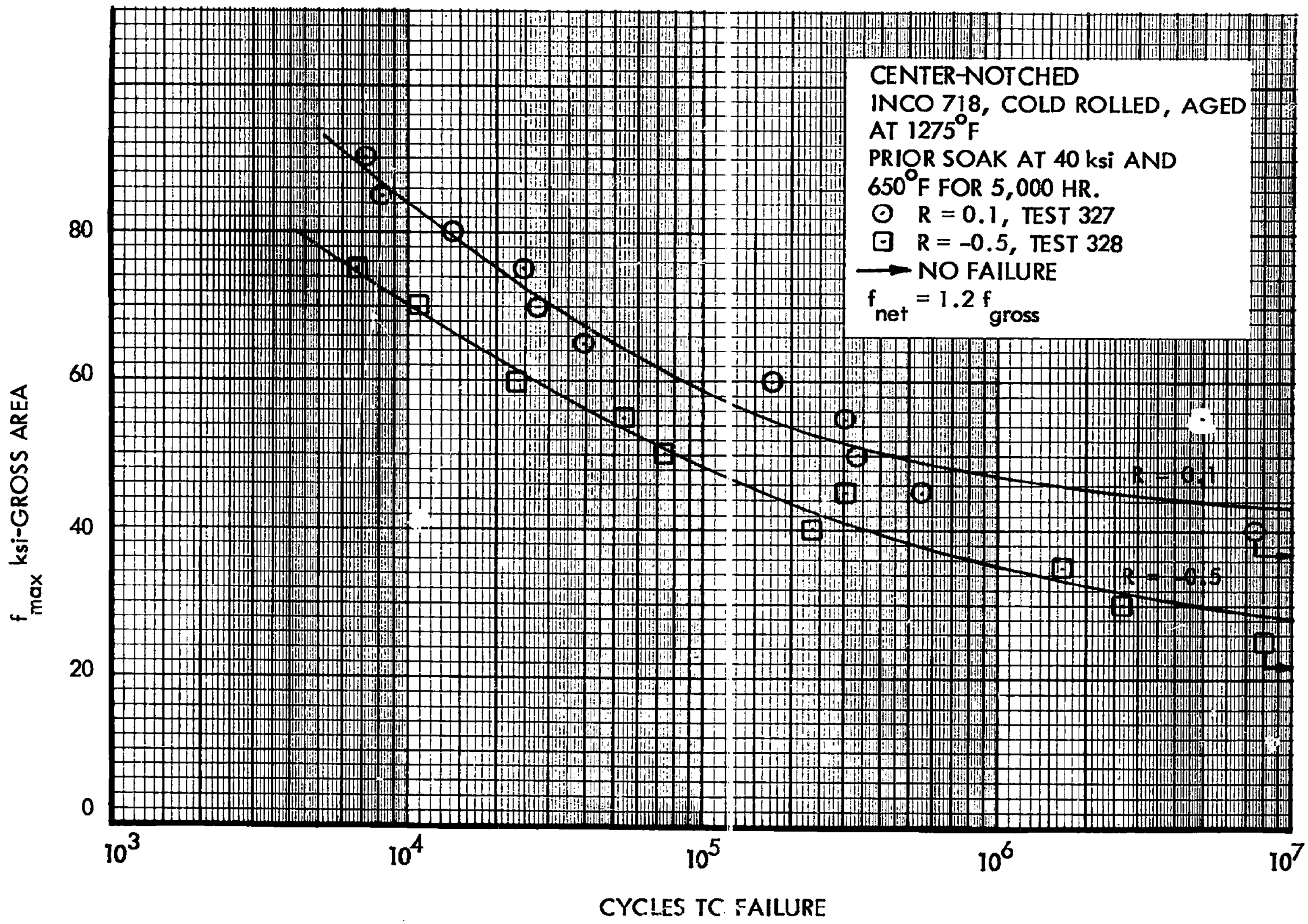


Figure 188. S-N Curves at 400°F, Center-Notched INCO 718, R = Constant

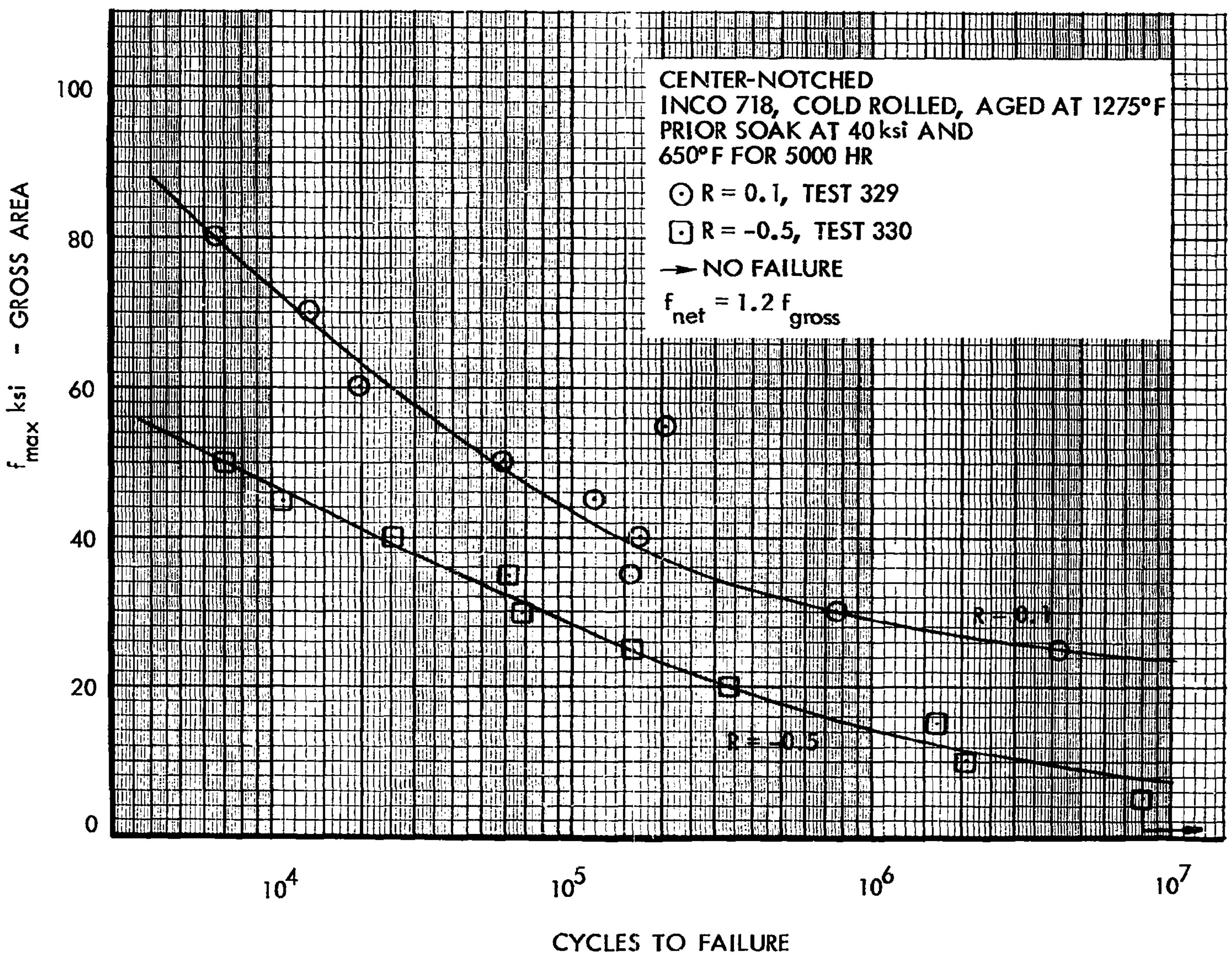


Figure 189. S-N Curves at 650°F, Center-Notched INCO 718, R = Constant

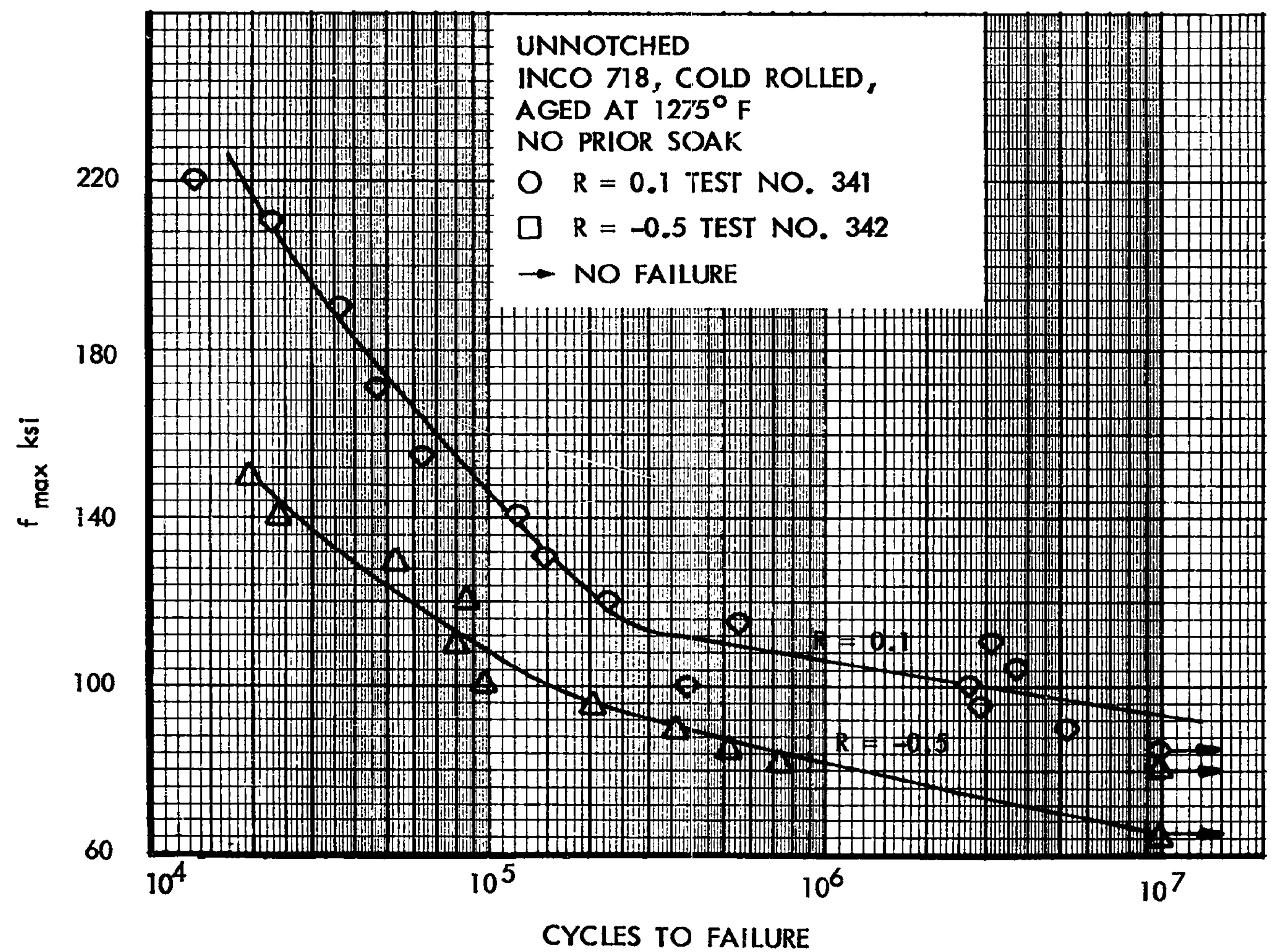


Figure 190. S-N Curves at Room Temperature, Unnotched INCO 718, R = Constant

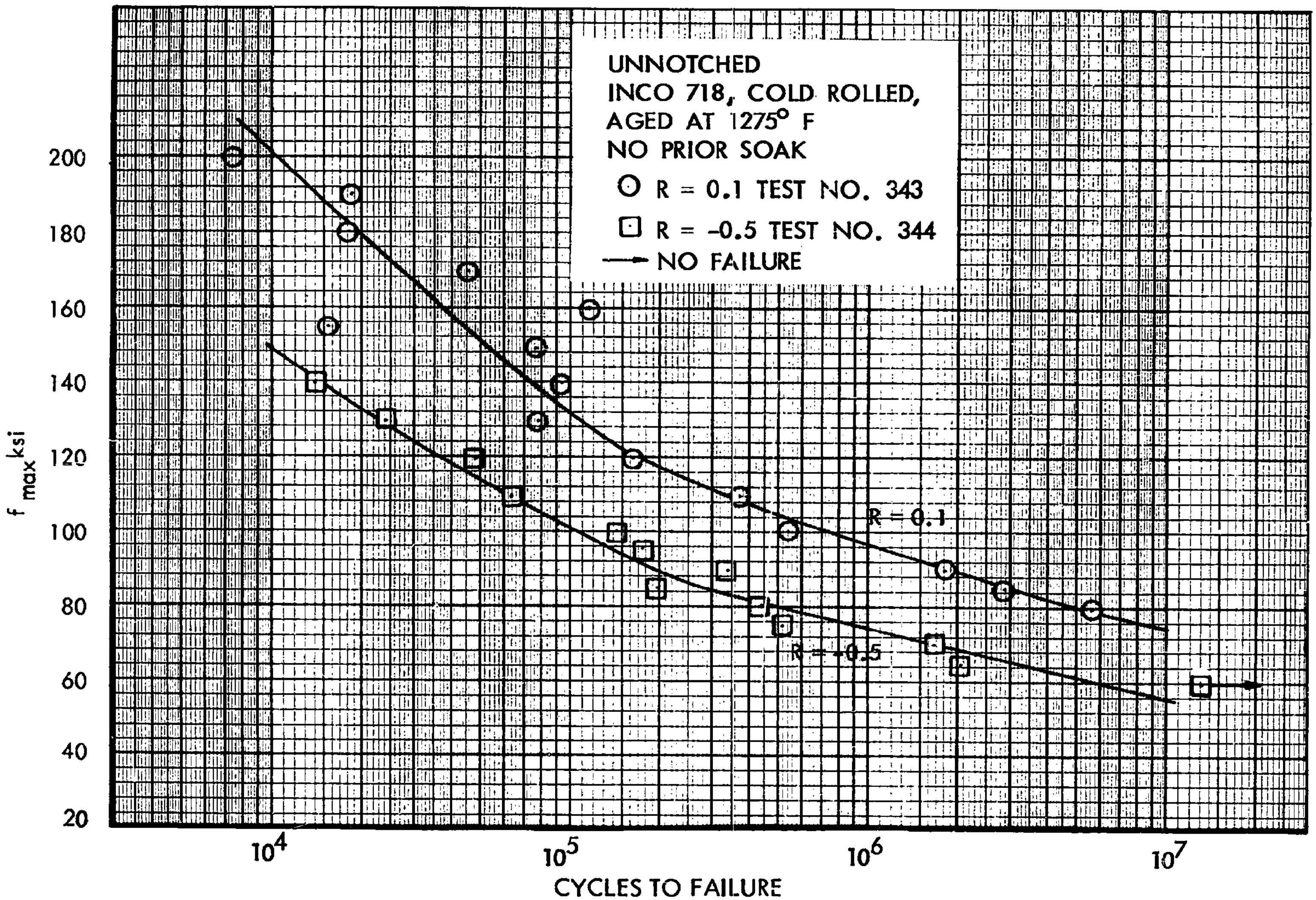


Figure 191. S-N Curves at 400°F, Unnotched INCO 718, R = Constant

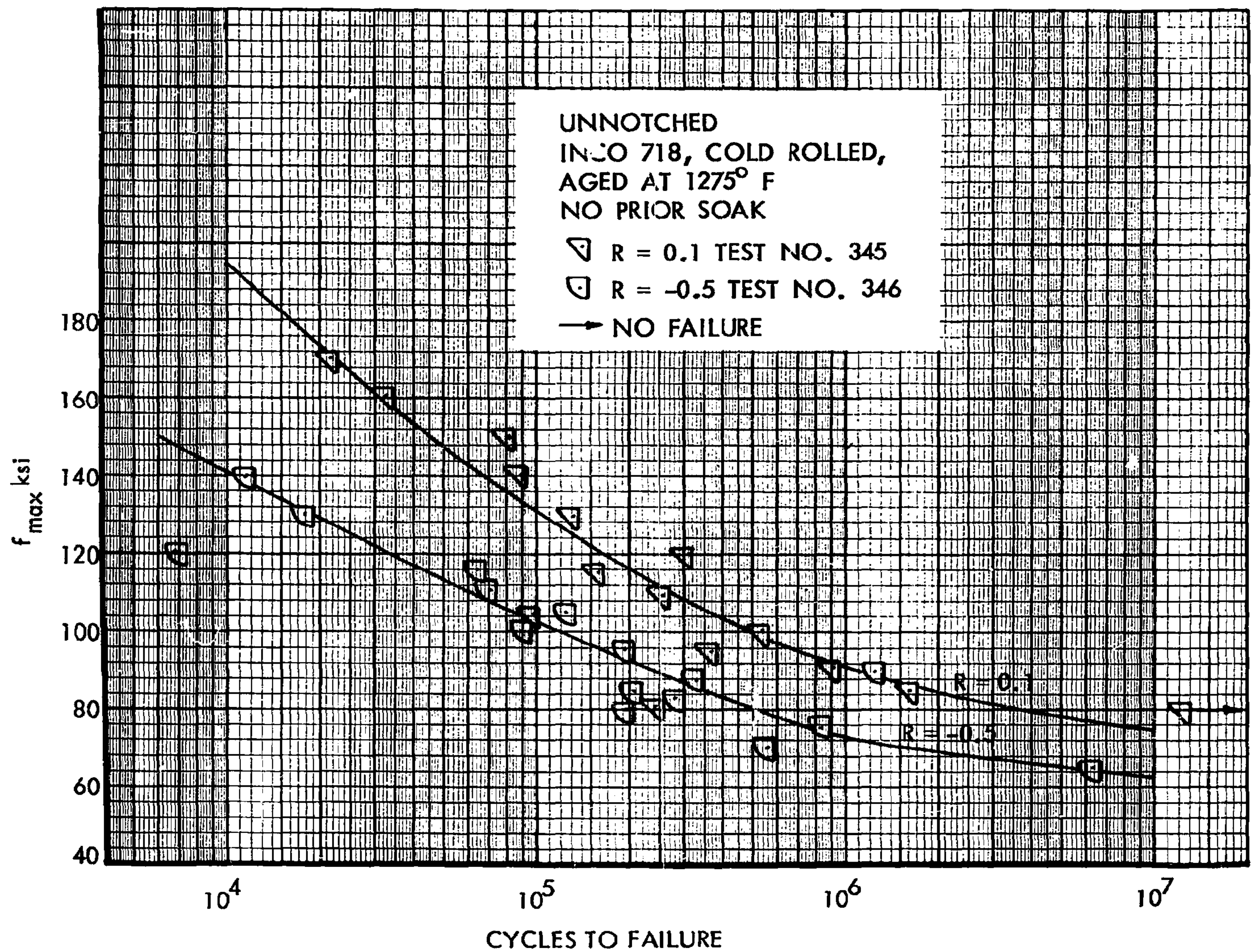


Figure 192. S-N Curves at 650°F, Unnotched INCO 718, R = Constant

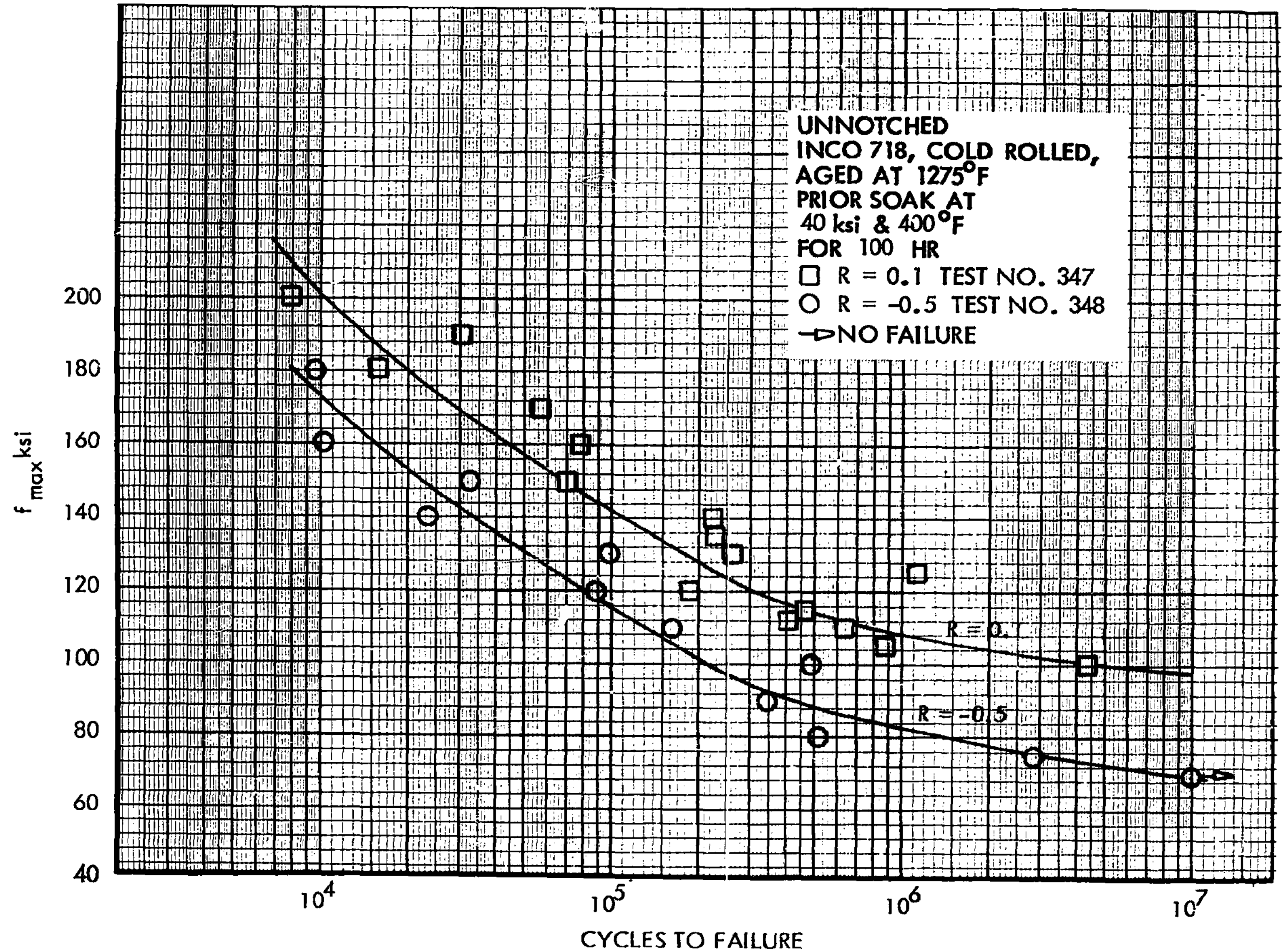


Figure 193. S-N Curves at Room Temperature, Unnotched INCO 718, R = Constant

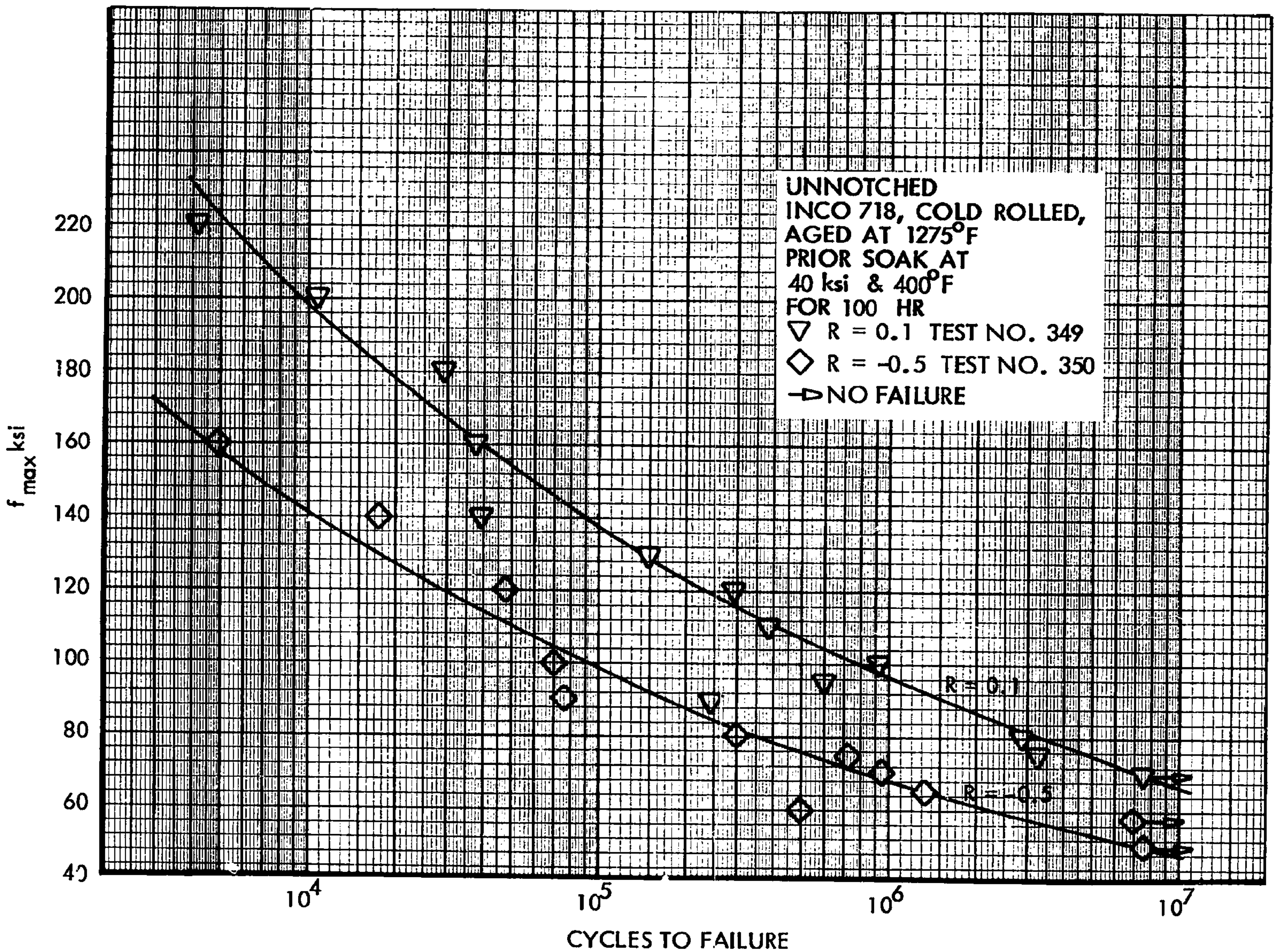


Figure 194. S-N Curves at 400°F, Unnotched INCO 718, R = Constant

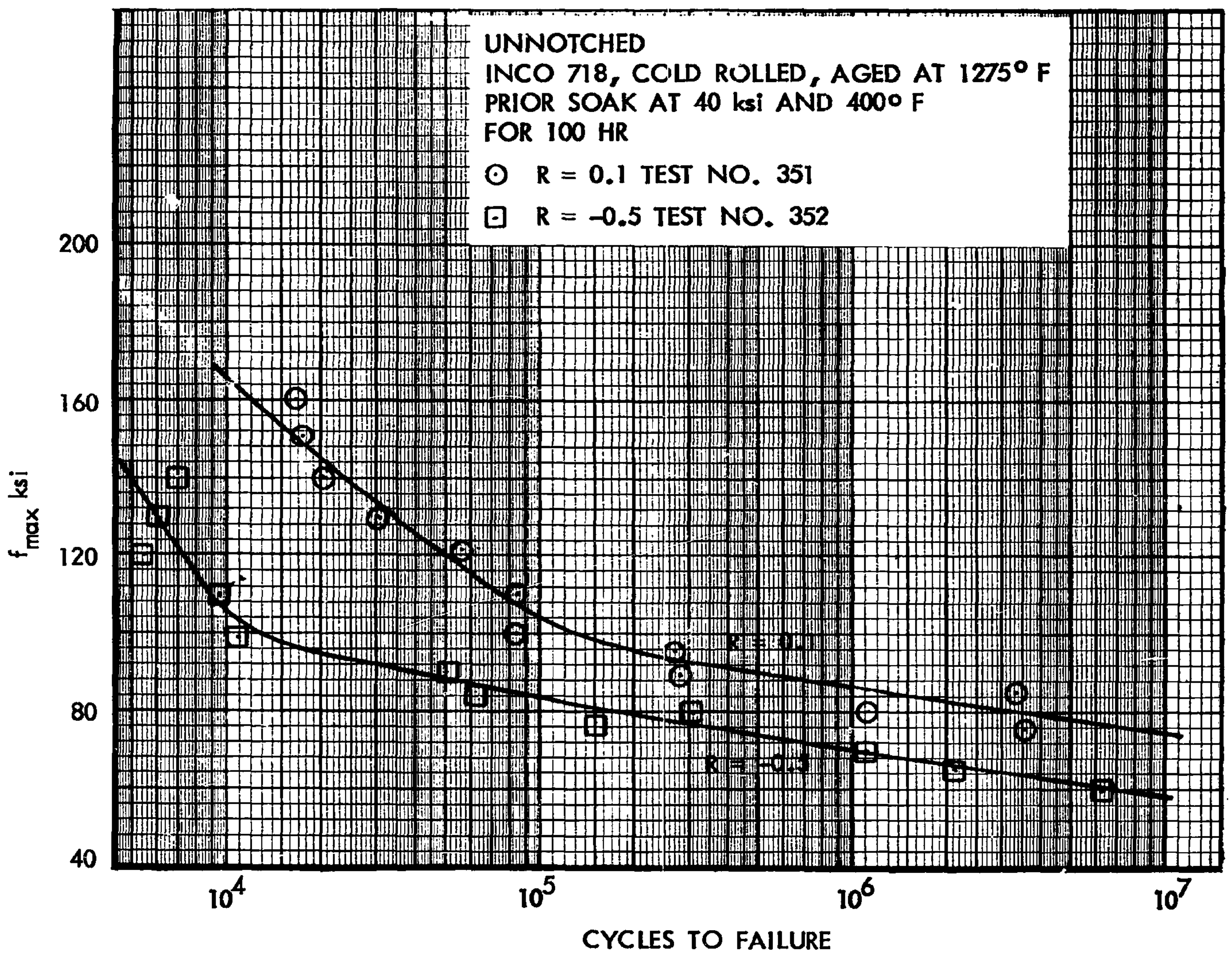


Figure 195. S-N Curves at 650°F, Unnotched INCO 718, R = Constant

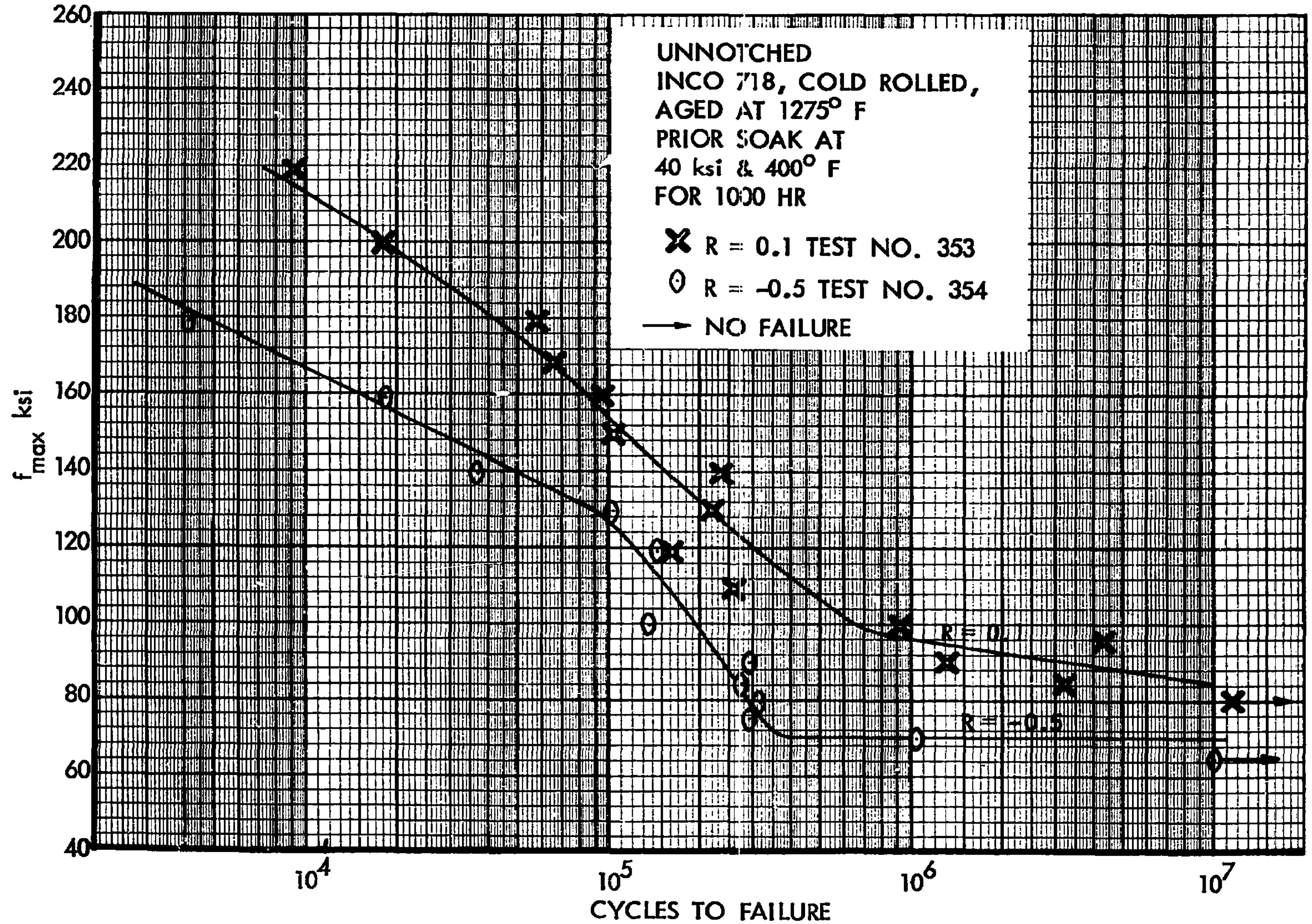


Figure 196. S-N Curves at Room Temperature, Unnotched INCO 718, R = Constant

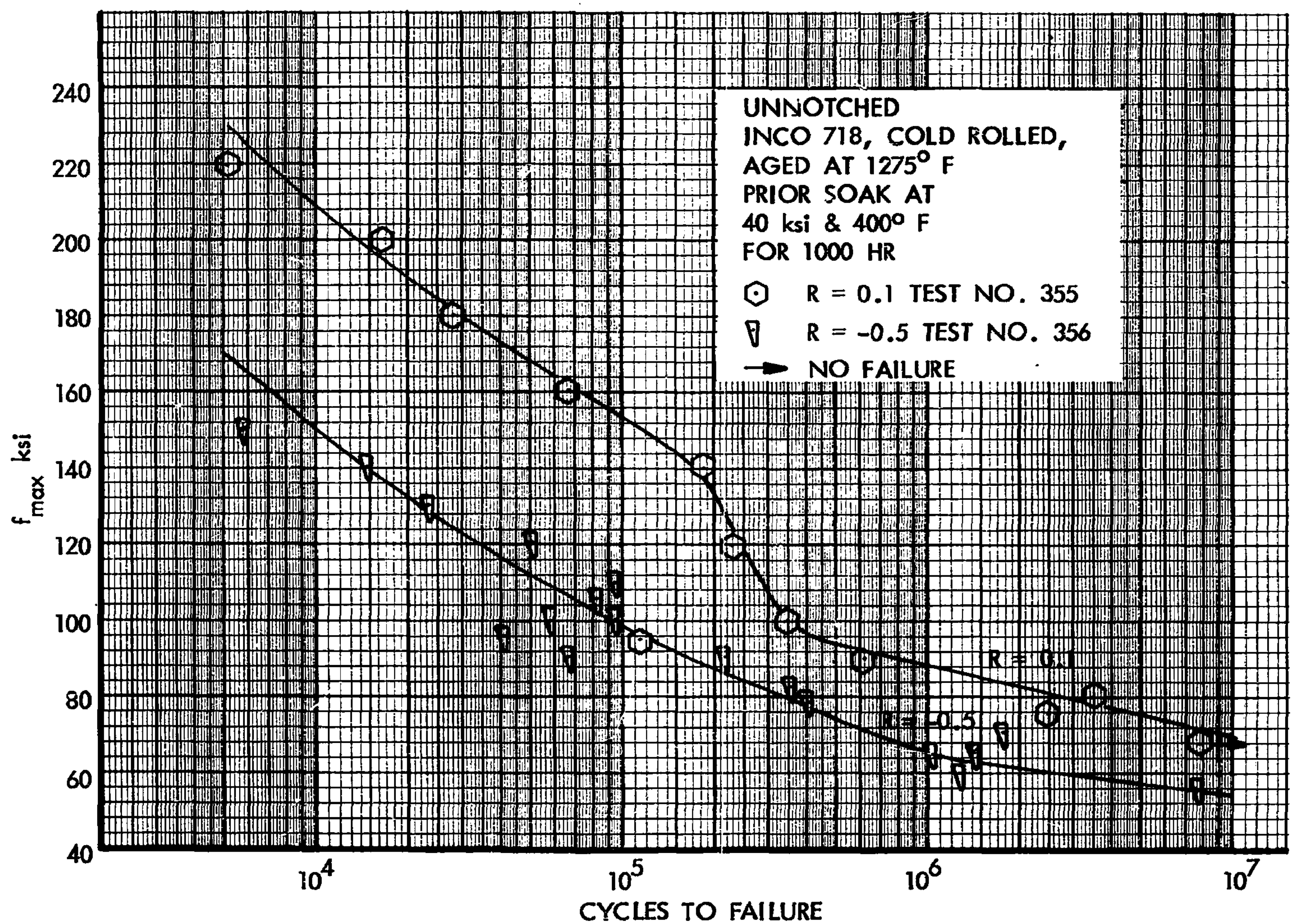


Figure 197. S–N Curves at 400°F, Unnotched INCO 718, R = Constant

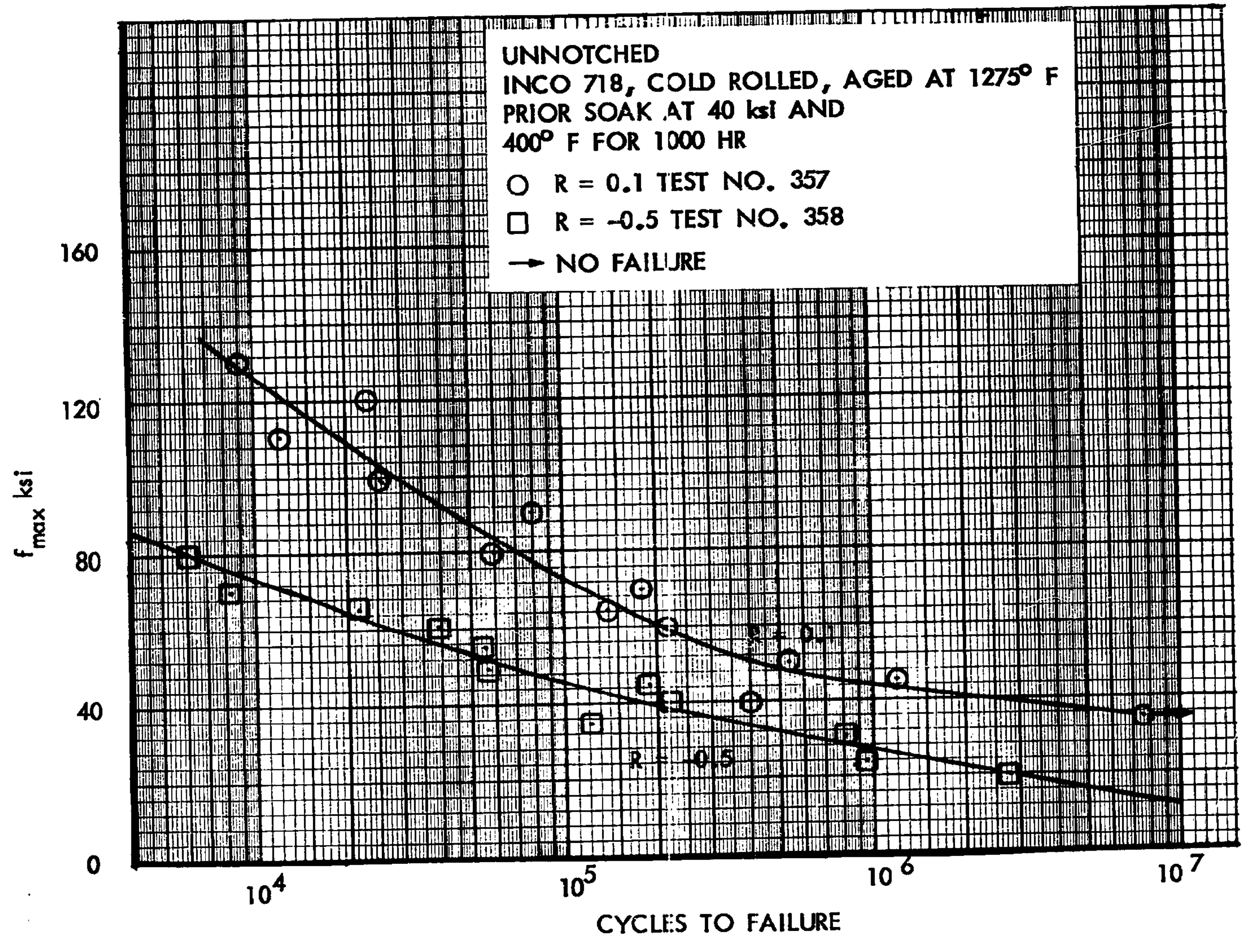


Figure 198. S-N Curves at 650°F, Unnotched INCO 718, R = Constant

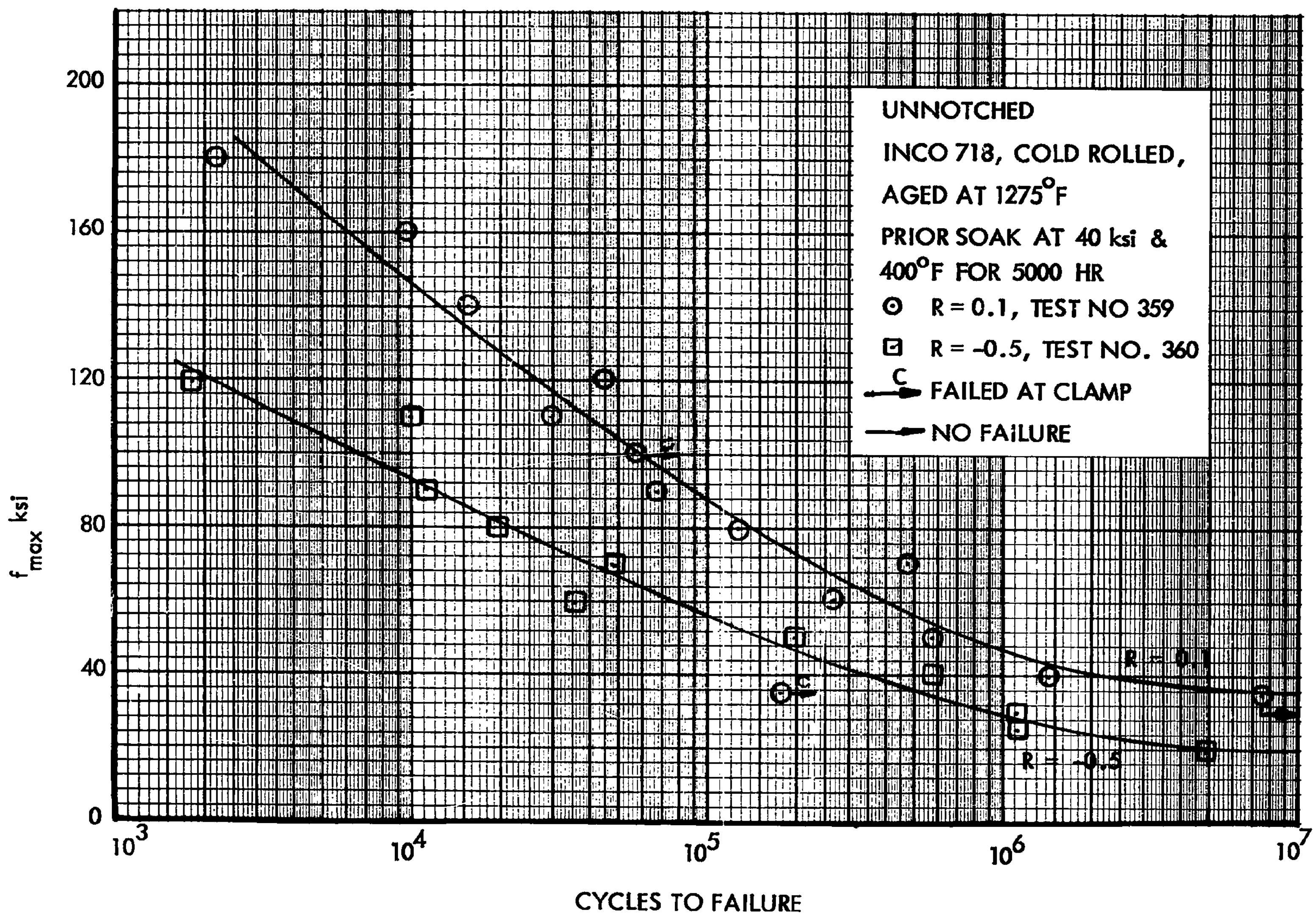


Figure 199. S-N Curves at Room Temperature, Unnotched INCO 718, R = Constant

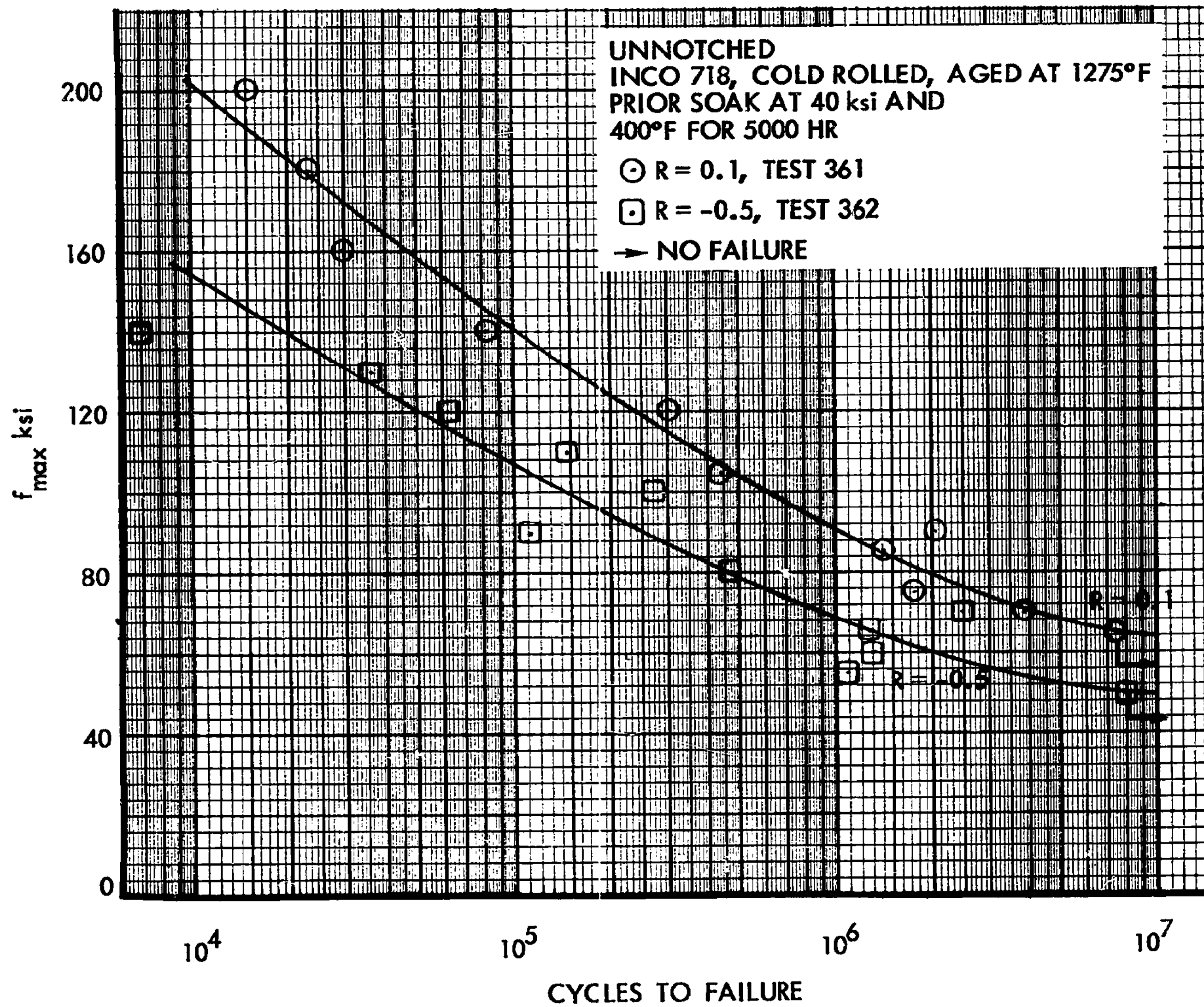


Figure 200. S-N Curves at 400°F, Unnotched INCO 718, R = Constant

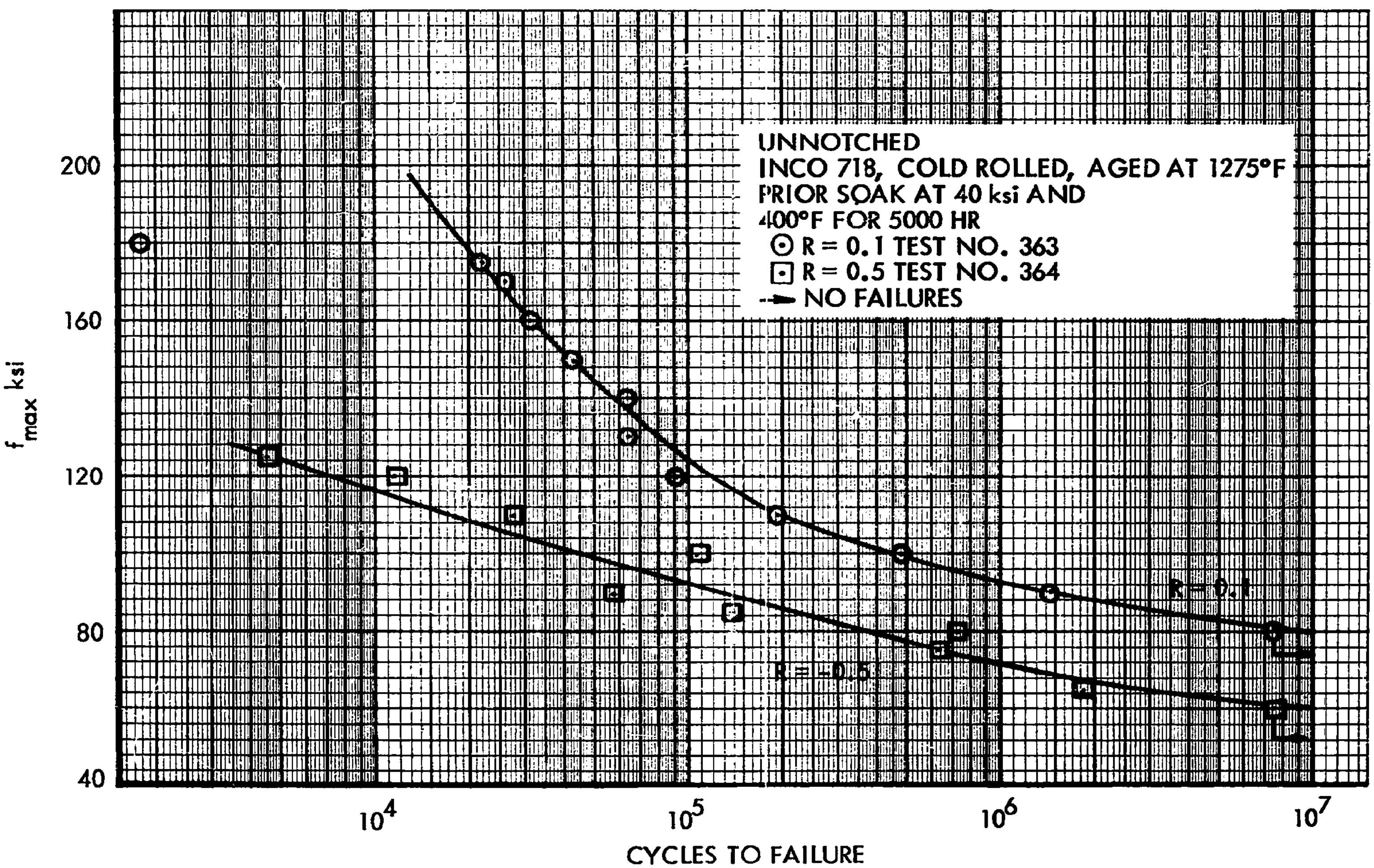


Figure 201. S-N Curves at 650°F, Unnotched INCO 718, R = Constant

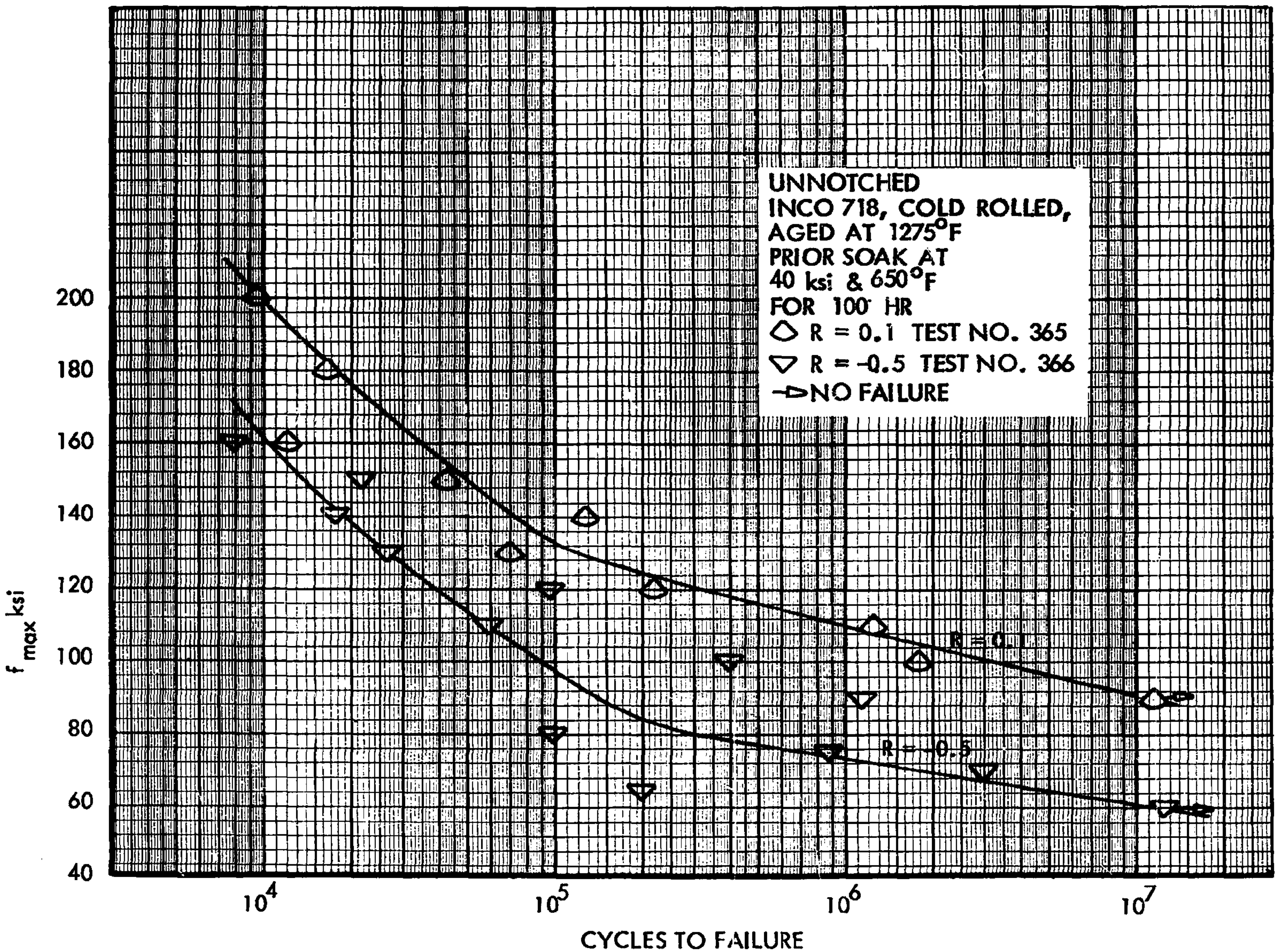


Figure 202. S-N Curves at Room Temperature, Unnotched INCO 718, R = Constant

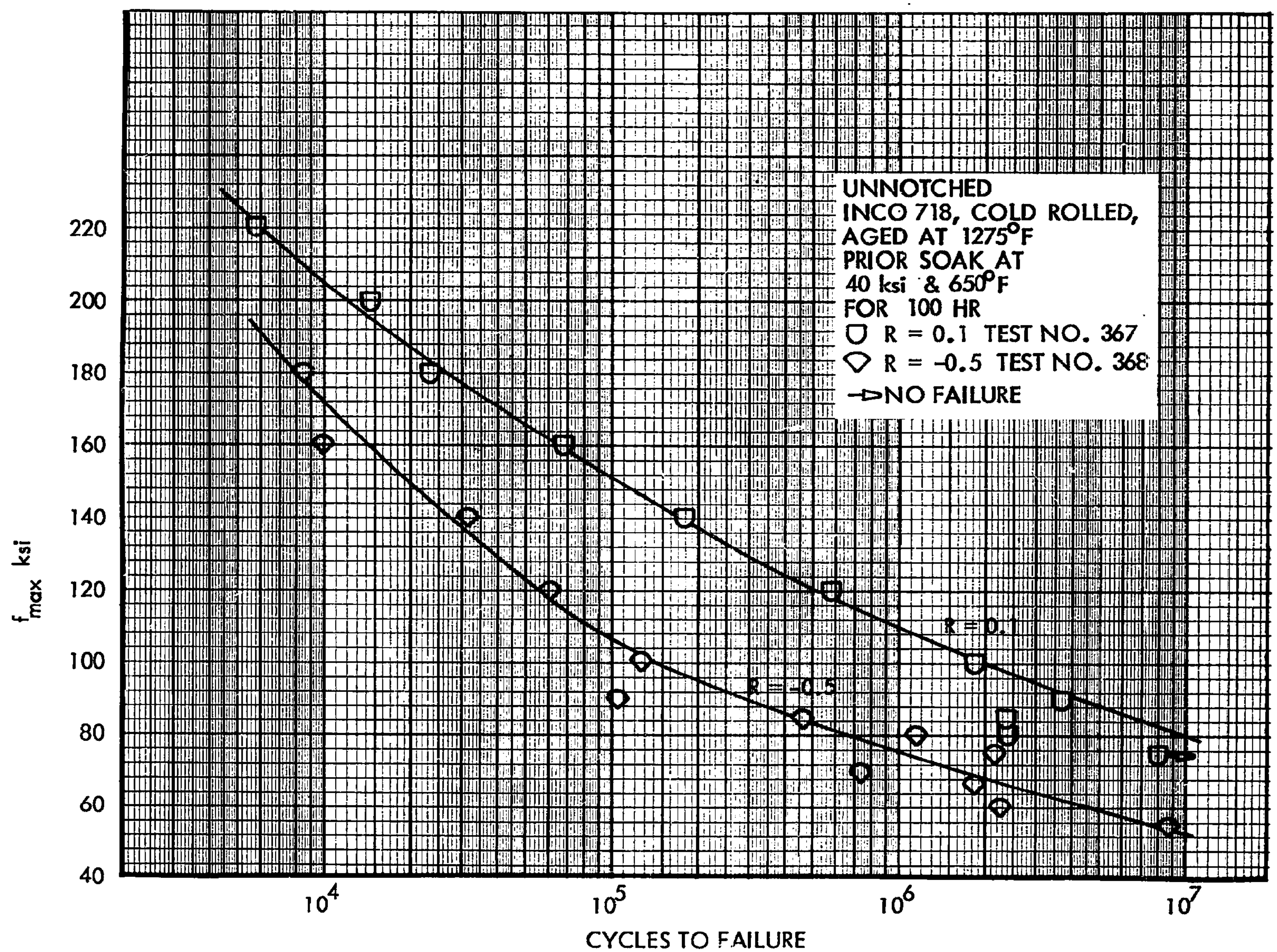


Figure 203. S-N Curves at 400°F, Unnotched INCO 718, R = Constant

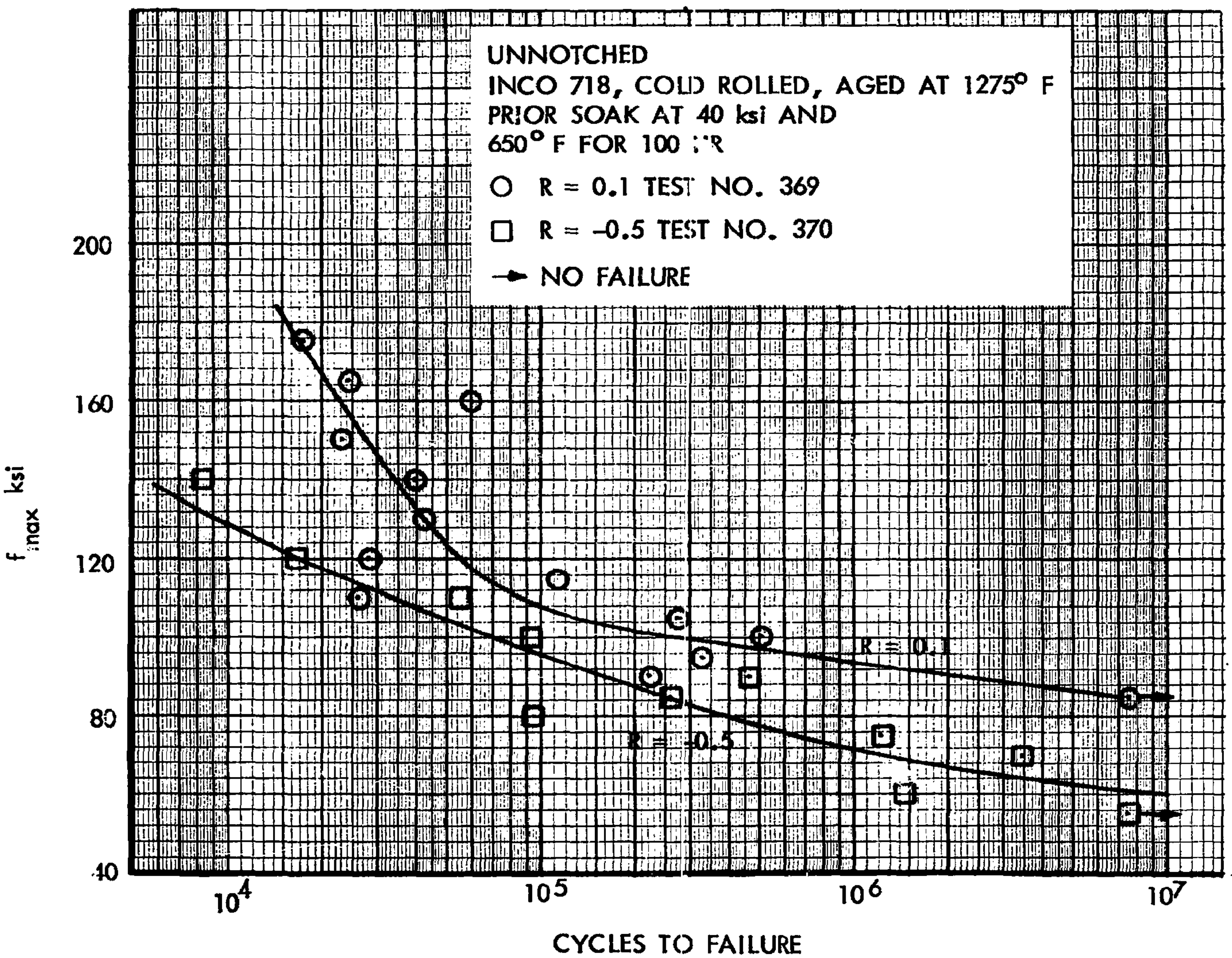


Figure 204. S-N Curves at 650°F, Unnotched INCO 718, R = Constant

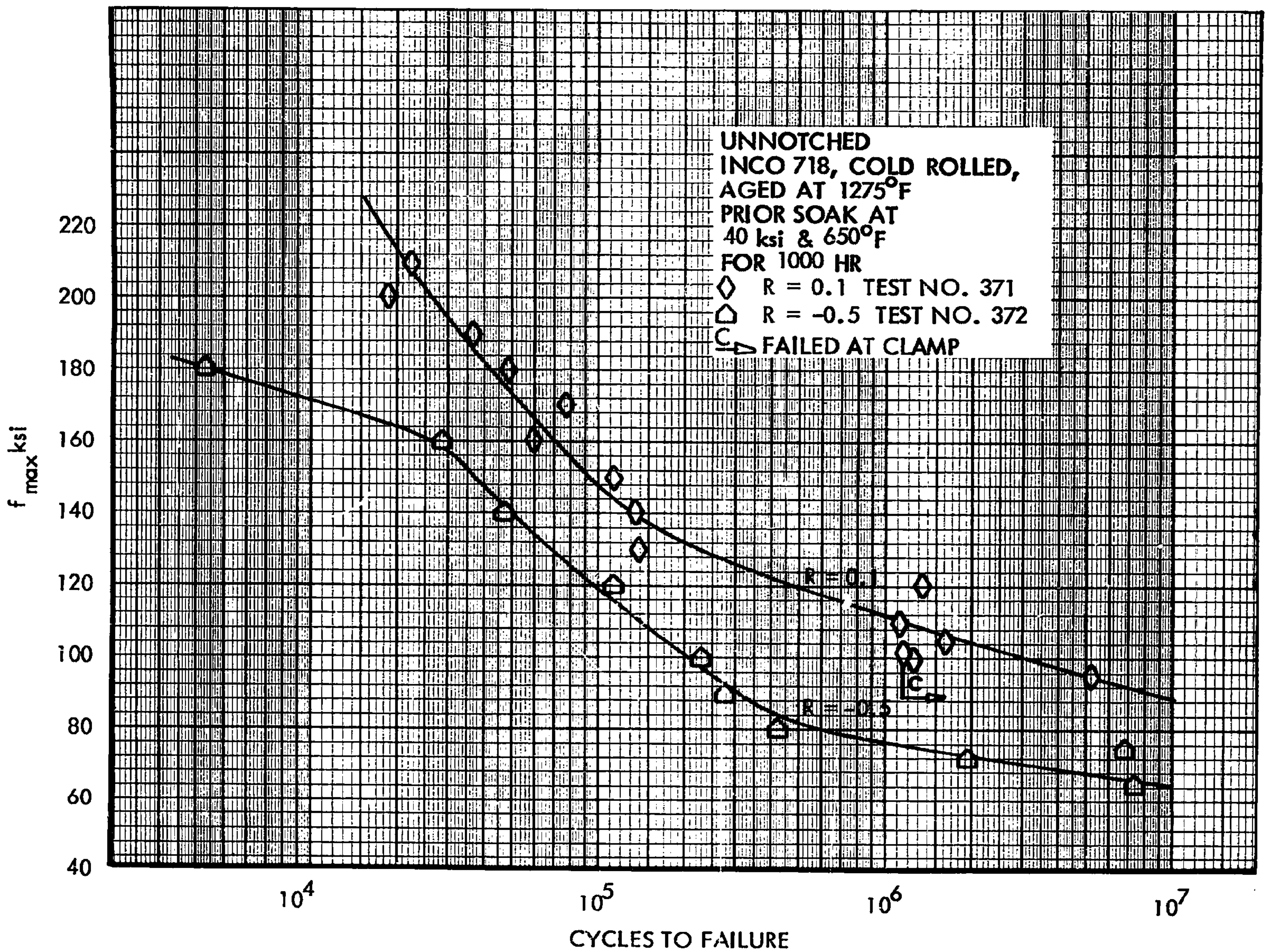


Figure 205. S-N Curves at Room Temperature, Unnotched INCO 718, R = Constant

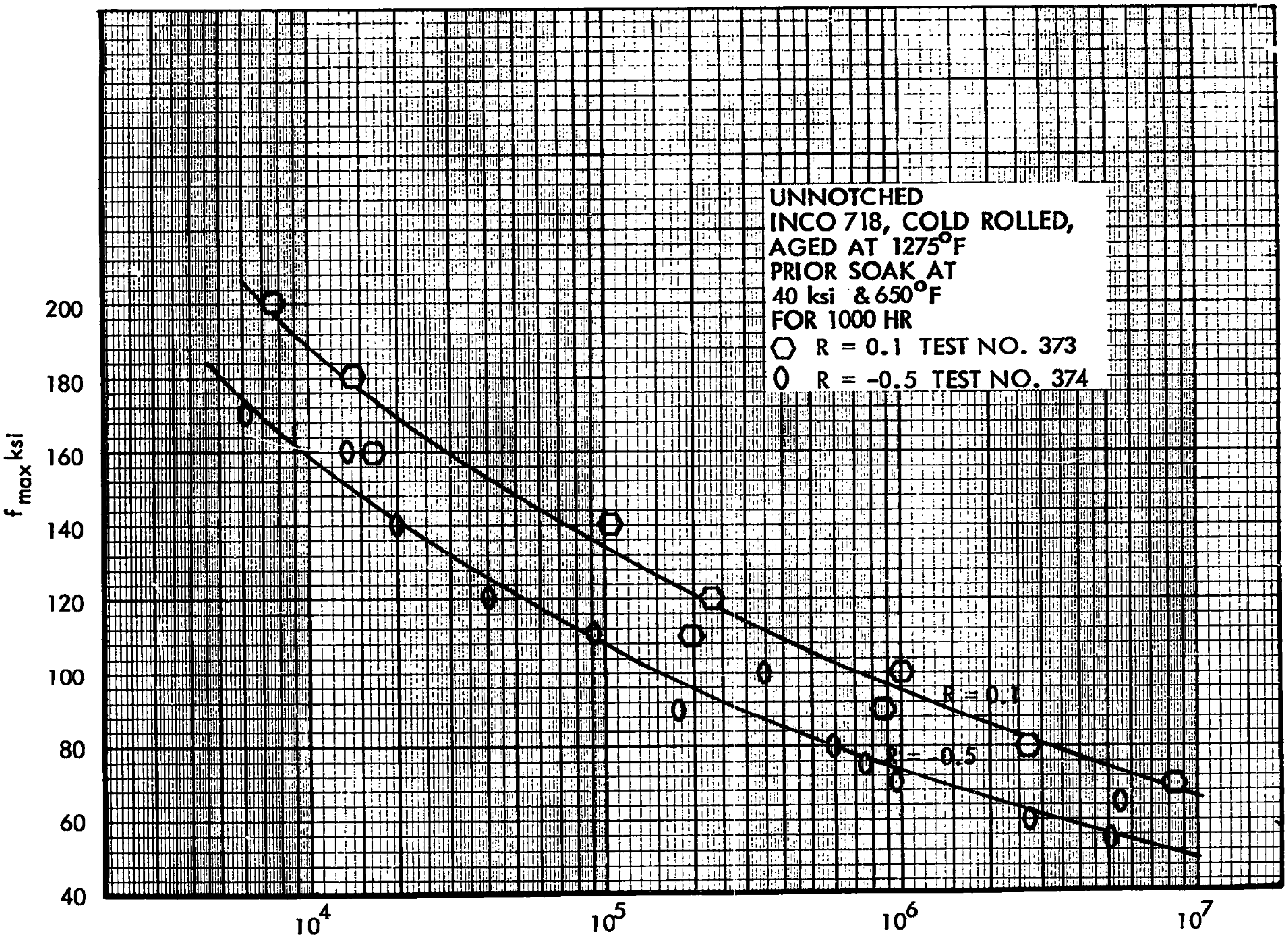


Figure 206. S-N Curves at 400°F, Unnotched INCO 718, R = Constant

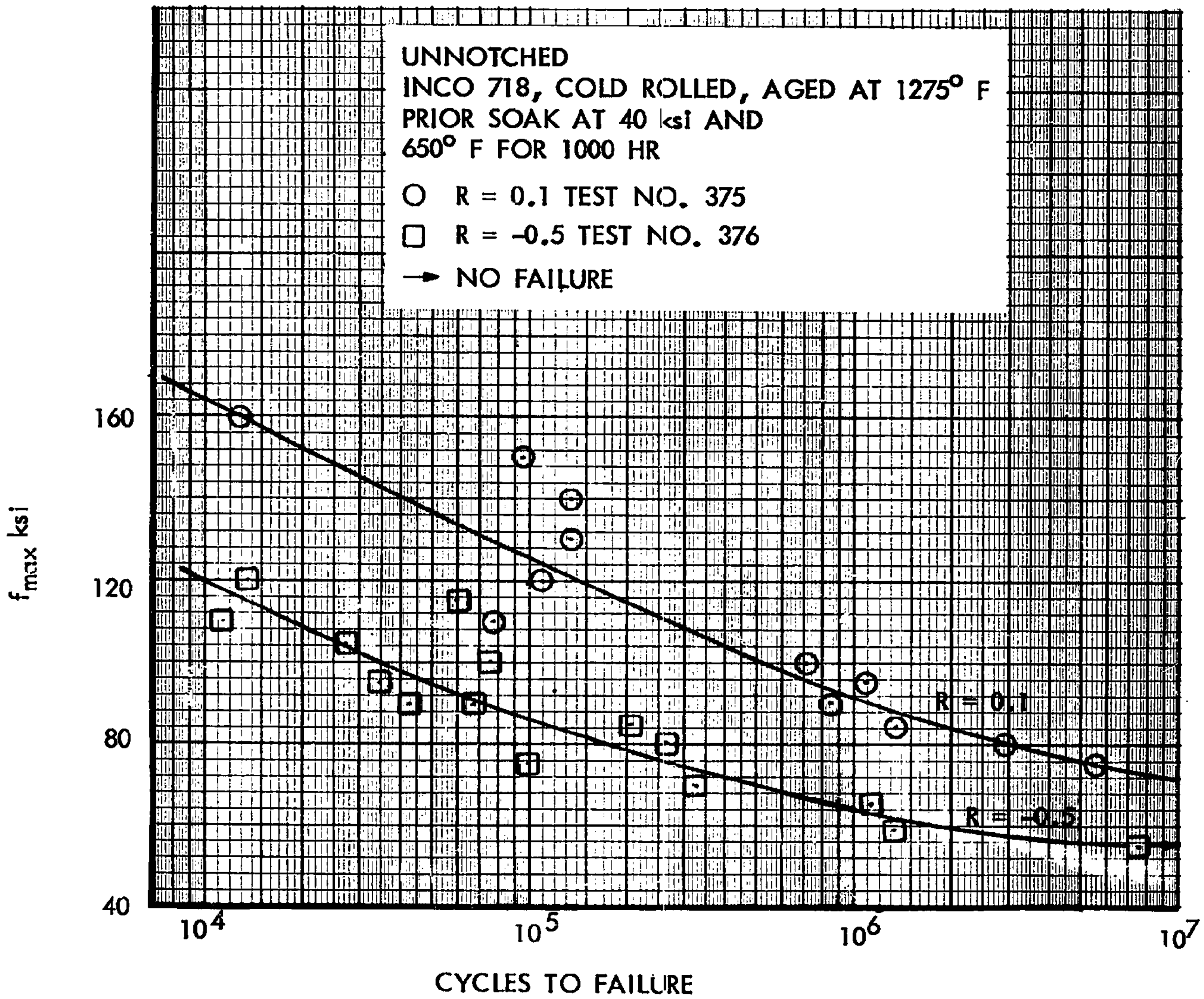


Figure 207. S-N Curves at 650°F, Unnotched INCO 718, R = Constant

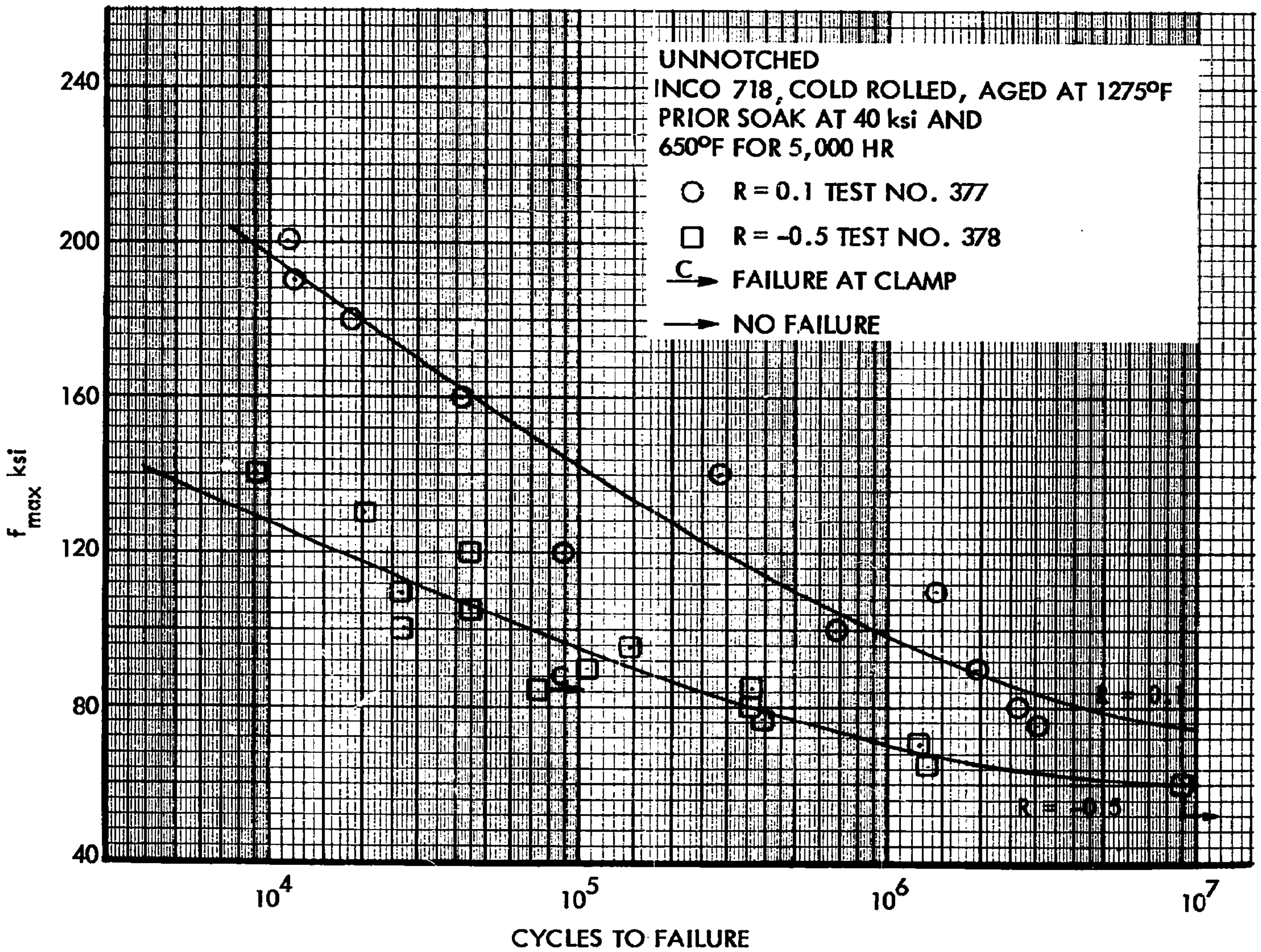


Figure 208. S-N Curves at Room Temperature, Unnotched INCO 718, R = Constant

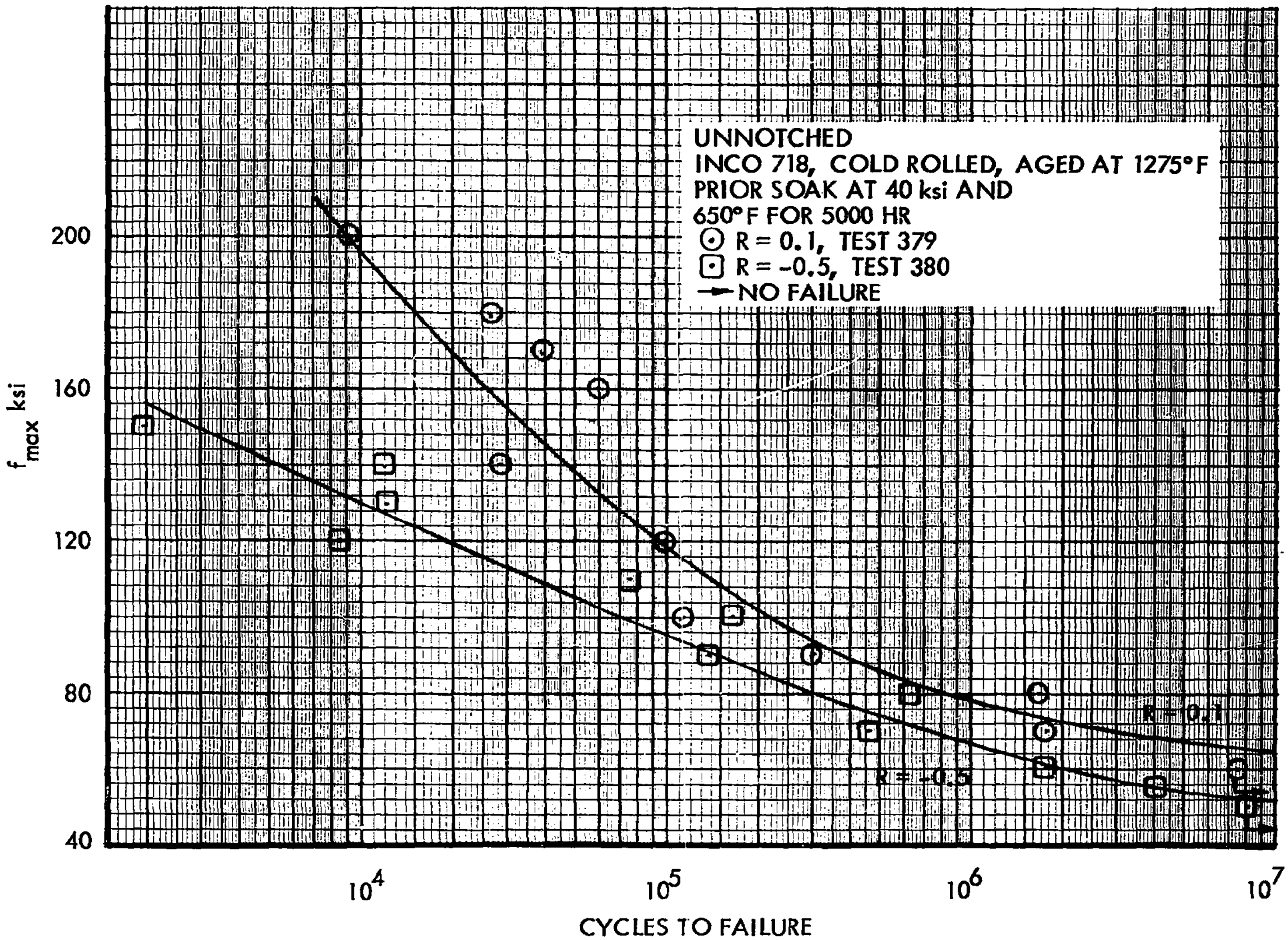


Figure 209. S-N Curves at 400°F, Unnotched INCO 718, R = Constant

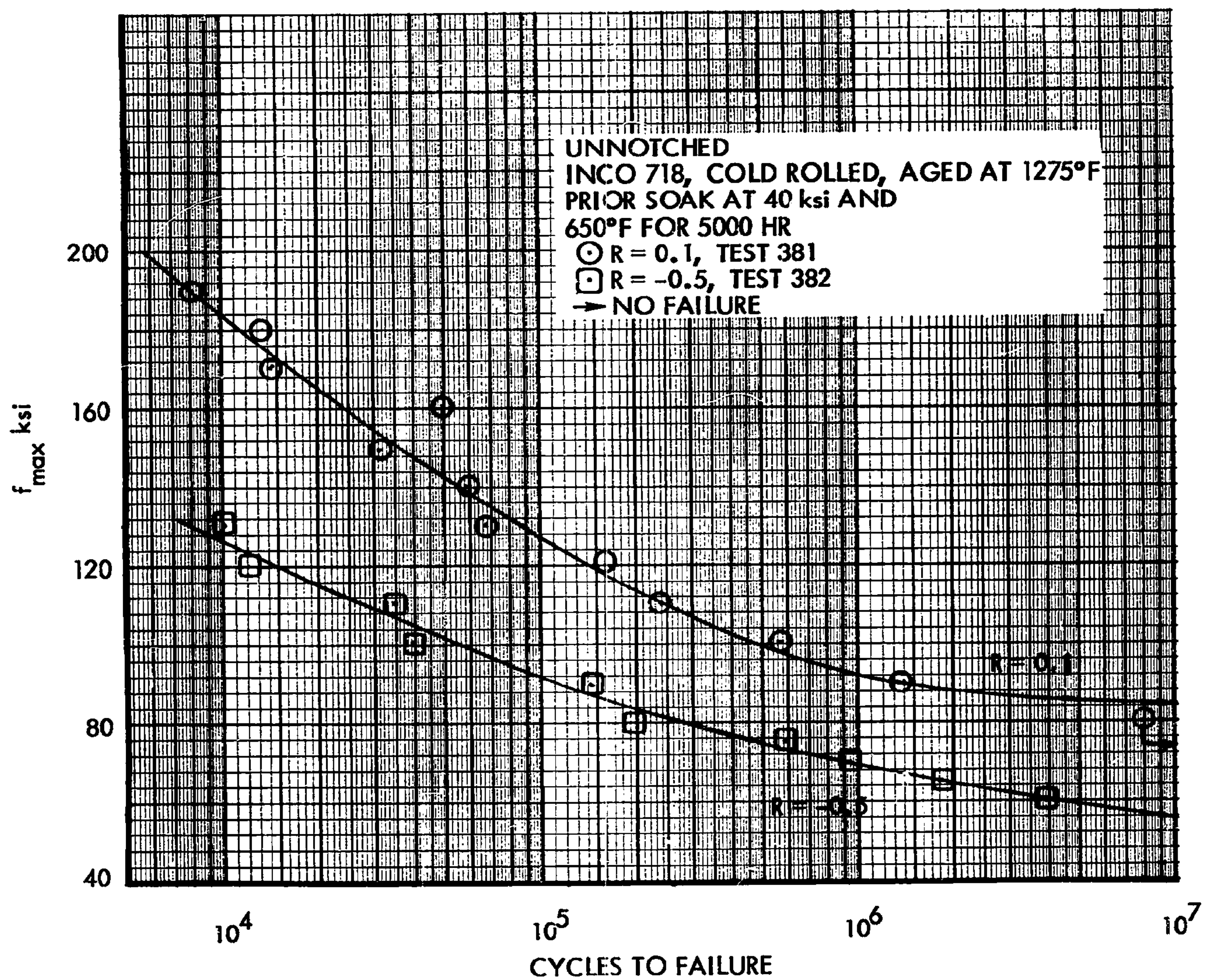


Figure 210. S-N Curves at 650°F, Unnotched INCO 718, R = Constant

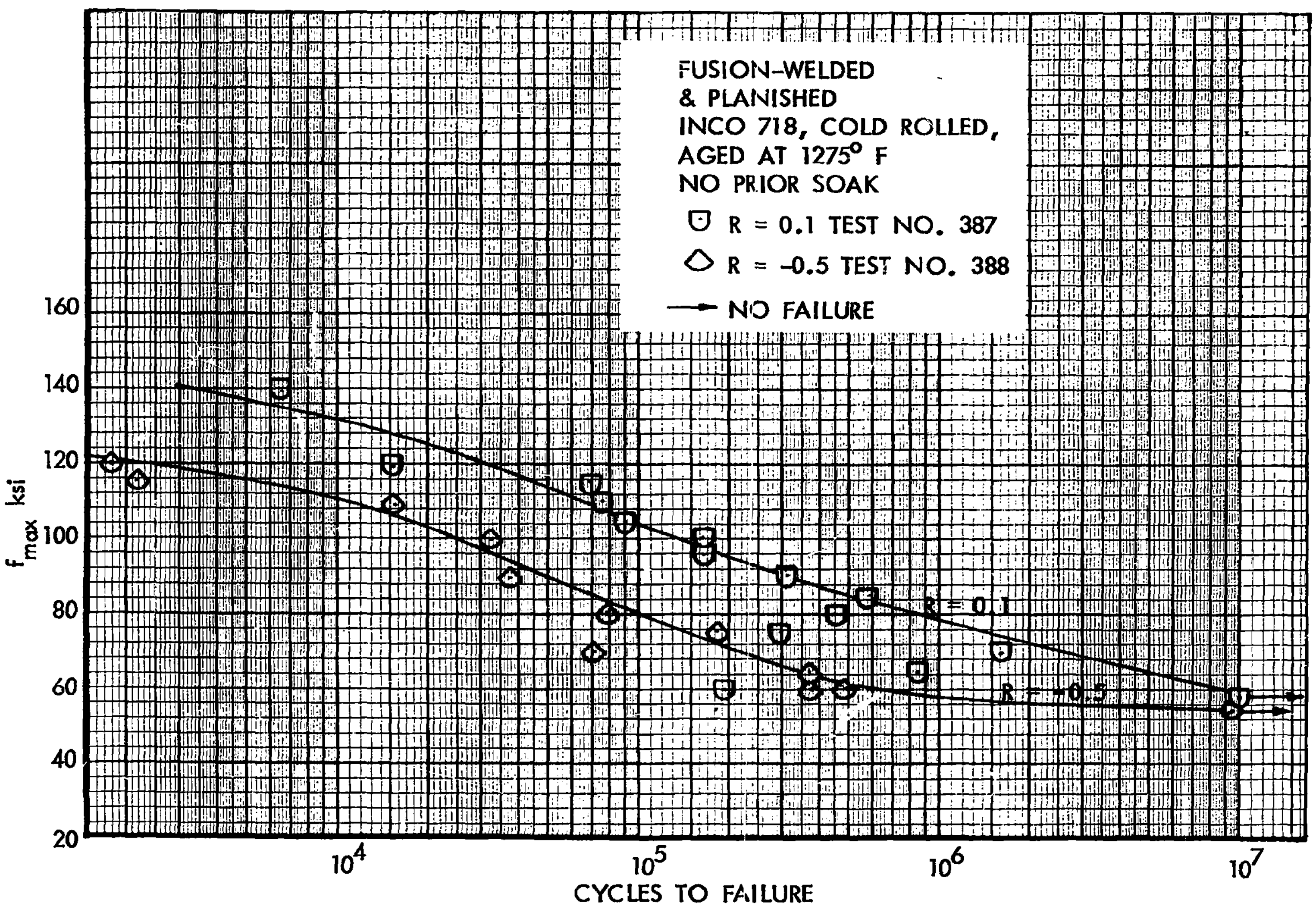


Figure 211. S-N Curves at Room Temperature, Fusion-Welded INCO 718, R = Constant

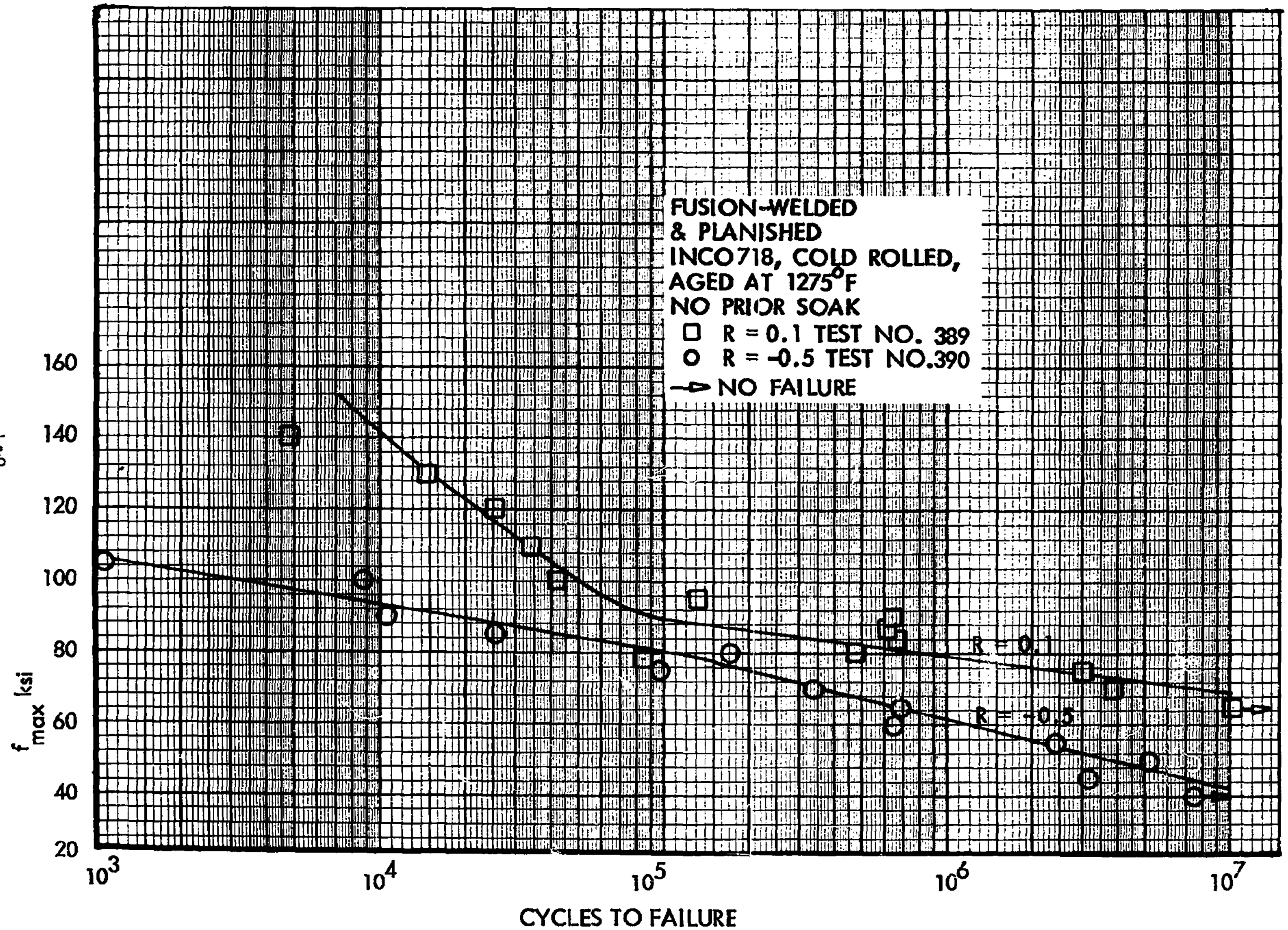


Figure 212. S-N Curves at 400°F, Fusion-Welded INCO 718, R = Constant

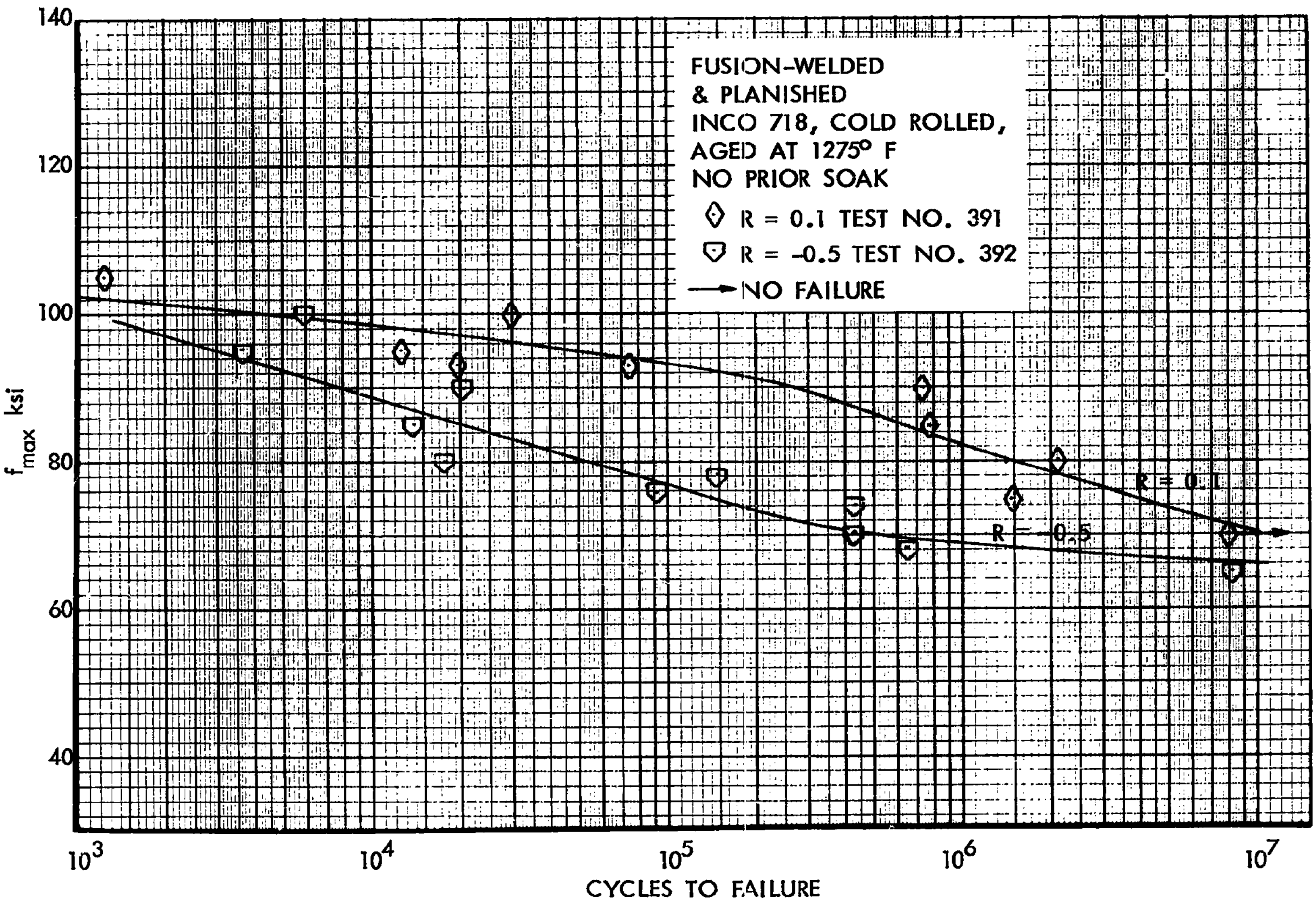


Figure 213. S-N Curves at 650°F, Fusion-Welded INCO 718, R = Constant

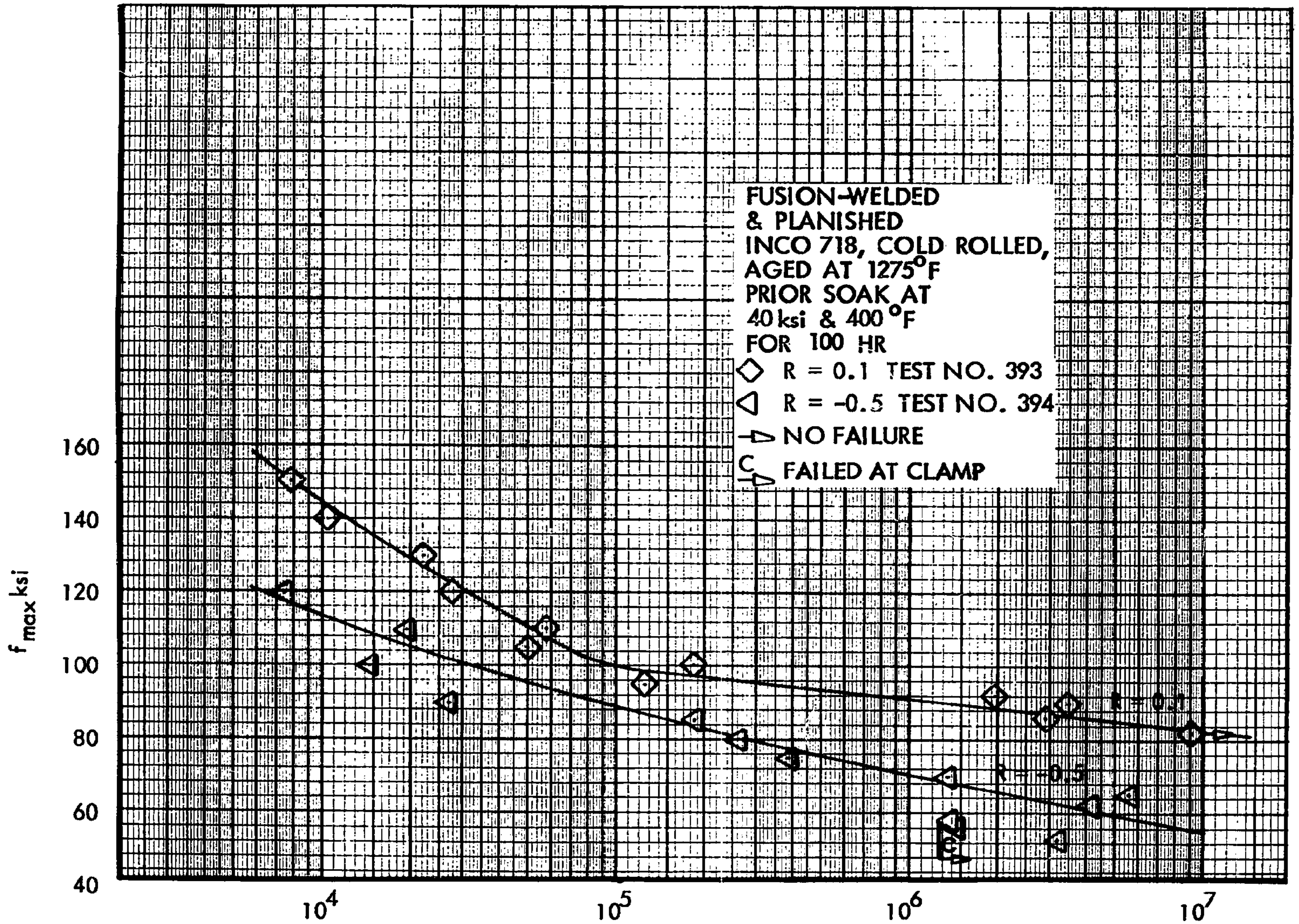


Figure 214. S-N Curves at Room Temperature, Fusion-Welded INCO 718, R = Constant

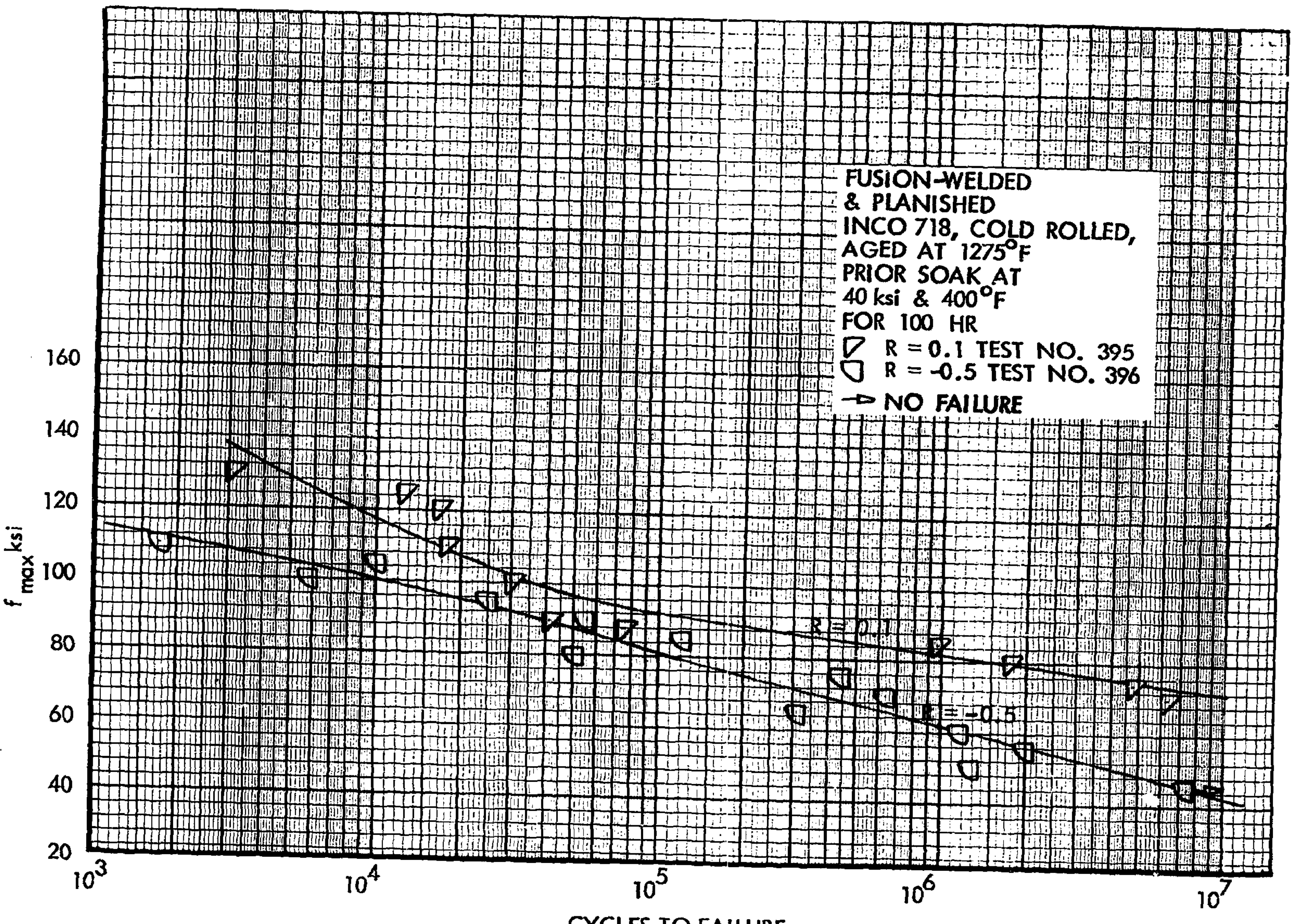


Figure 215. S-N Curves at 400°F, Fusion-Welded INCO 718, R = Constant

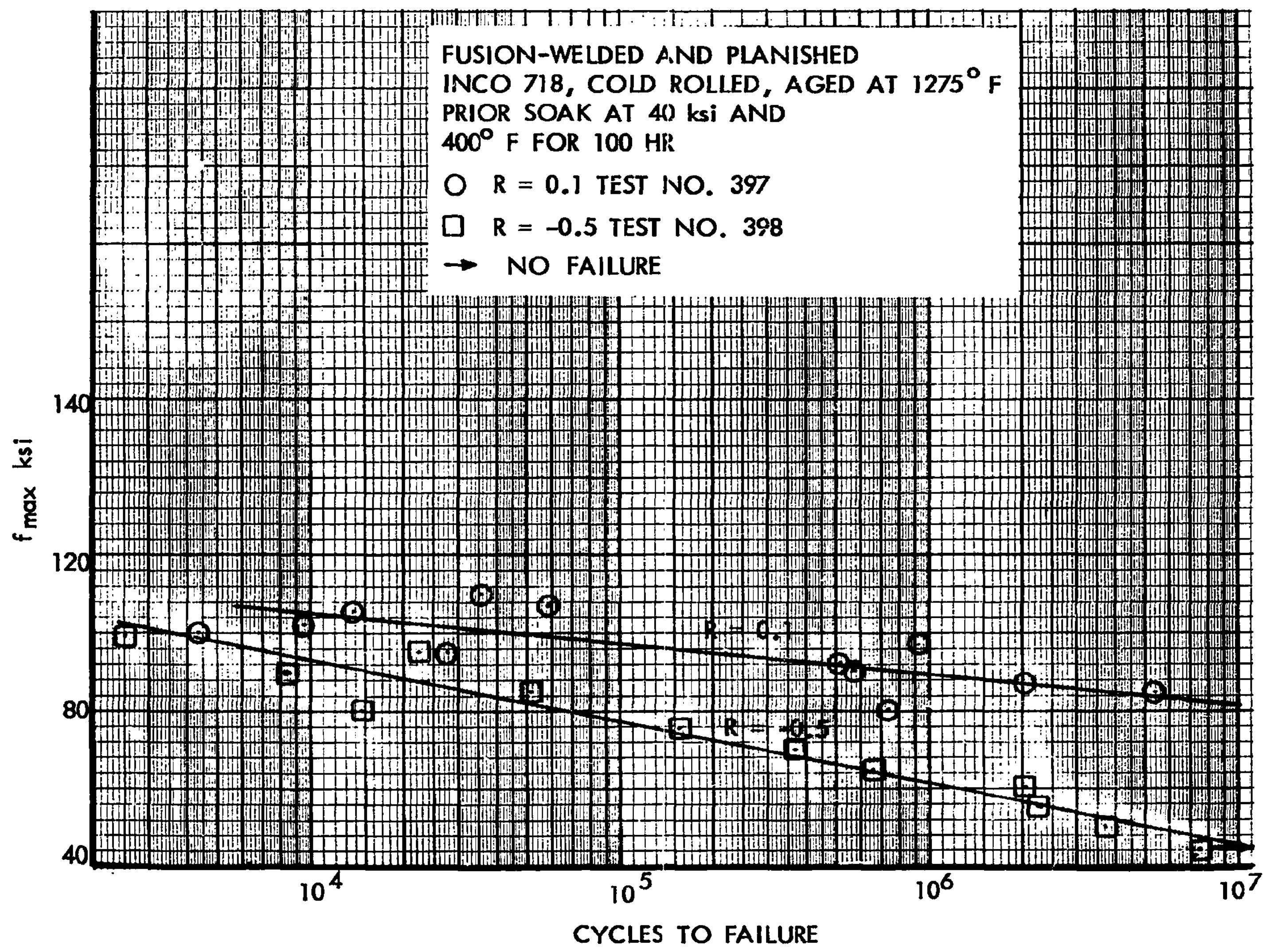


Figure 216. S-N Curves at 650°F, Fusion-Welded INCO 718, R = Constant

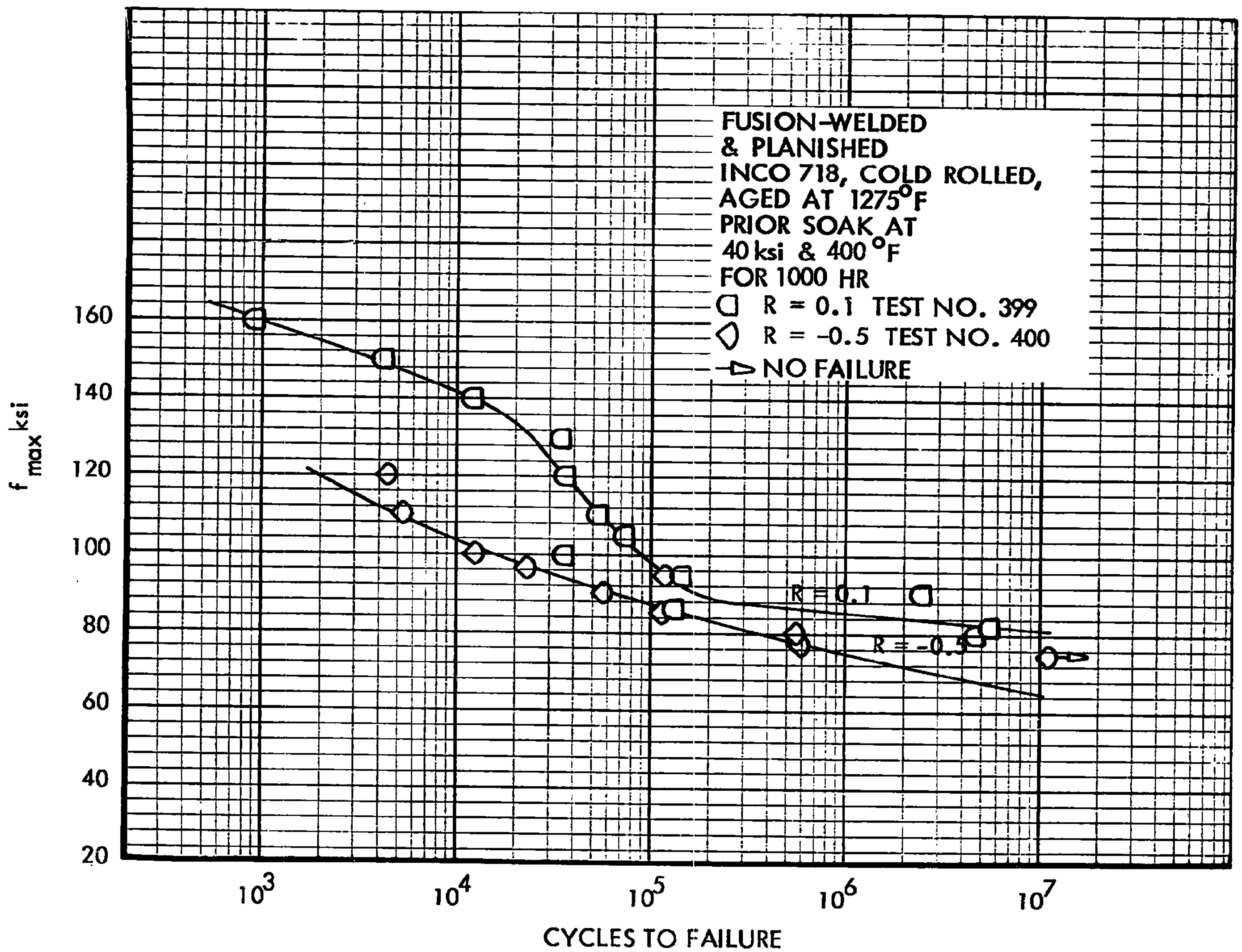


Figure 217. S-N Curves at Room Temperature, Fusion-Welded INCO 718, R = Constant

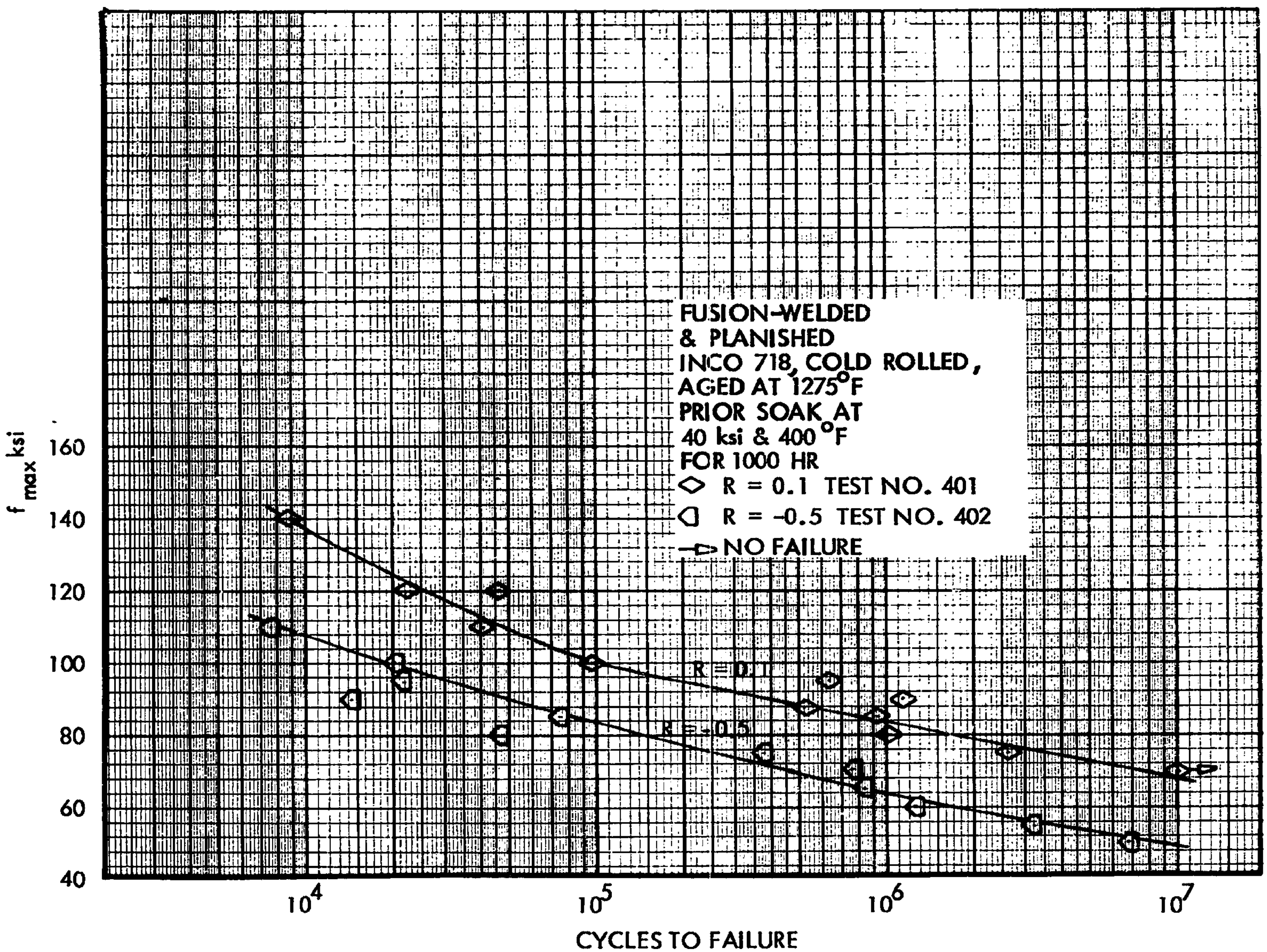


Figure 218. S-N Curves at 400°F, Fusion-Welded INCO 718, R = Constant

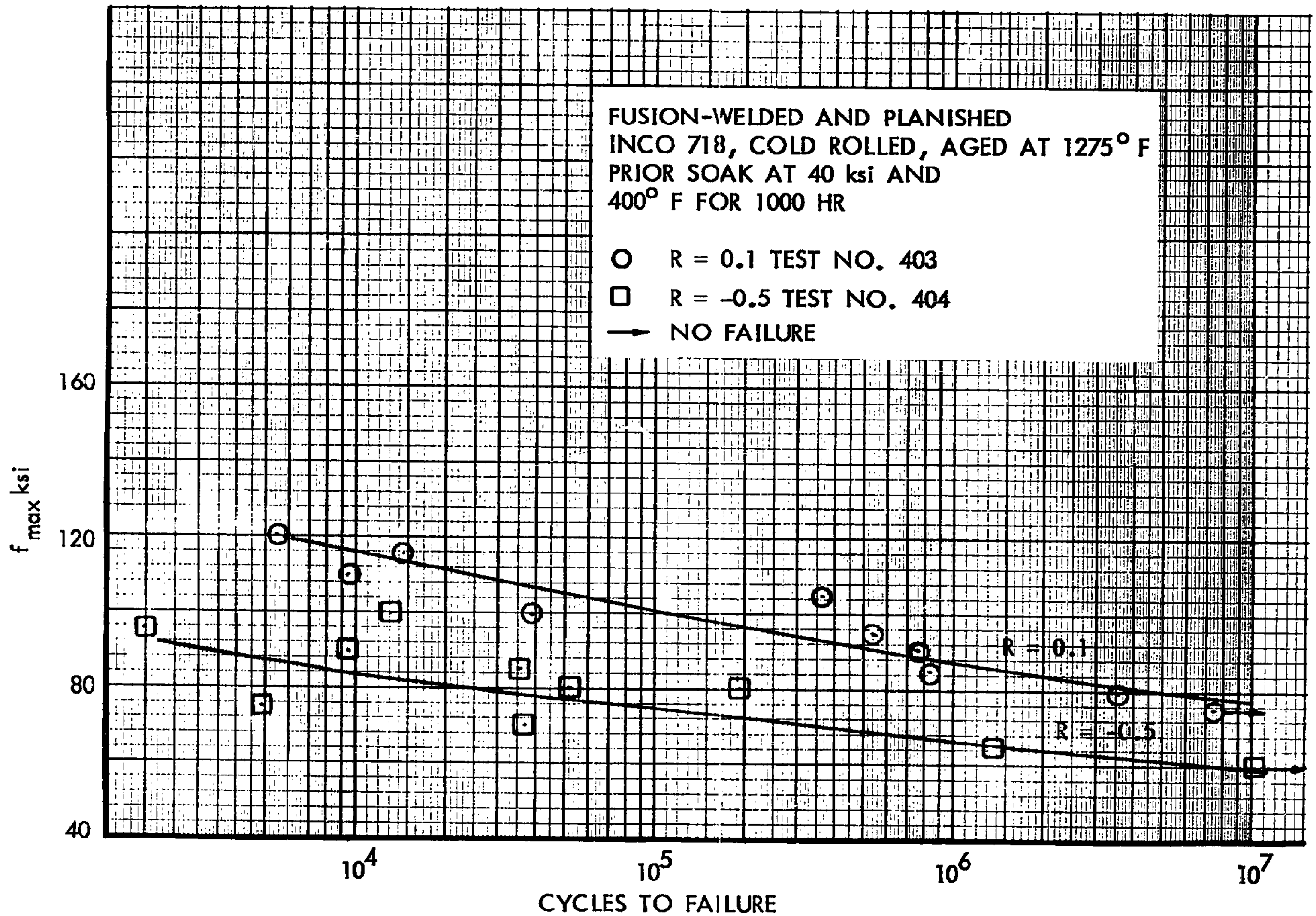


Figure 219. S-N Curves at 650°F, Fusion-Welded INCO 718, R = Constant

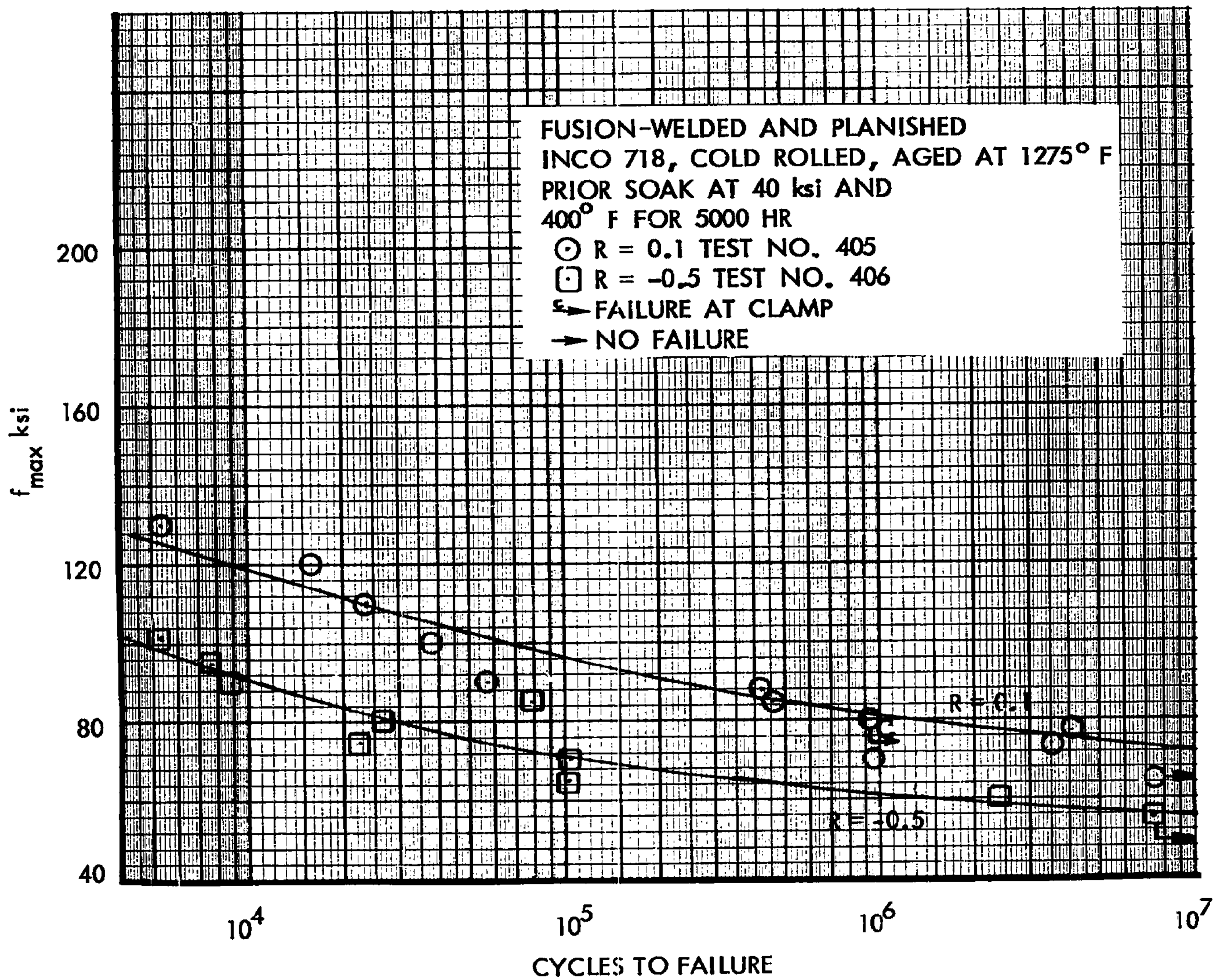


Figure 220. S-N Curves at Room Temperature, Fusion-Welded INCO 718, R = Constant

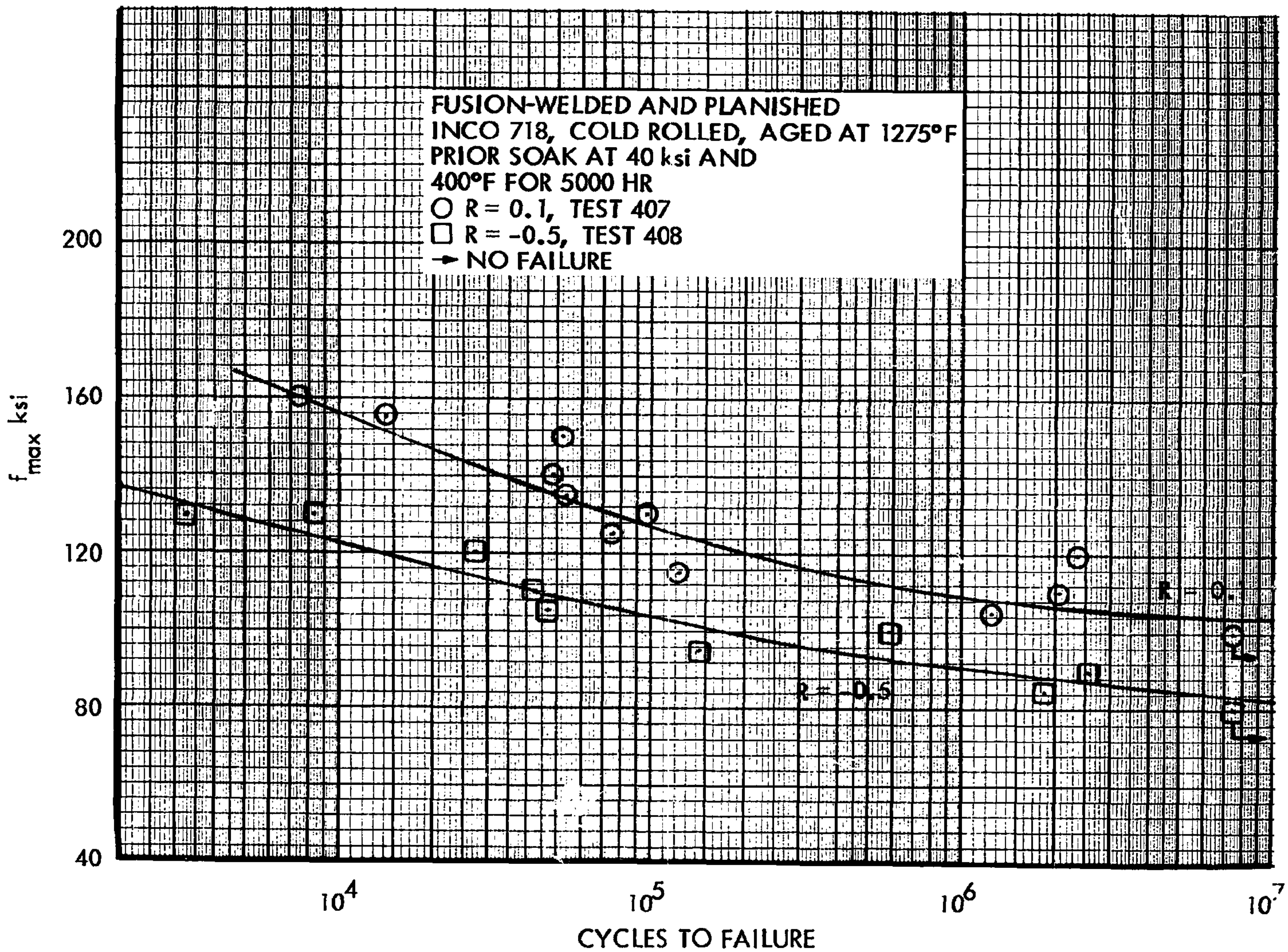


Figure 221. S-N Curves at 400°F, Fusion-Welded INCO 718, R = Constant

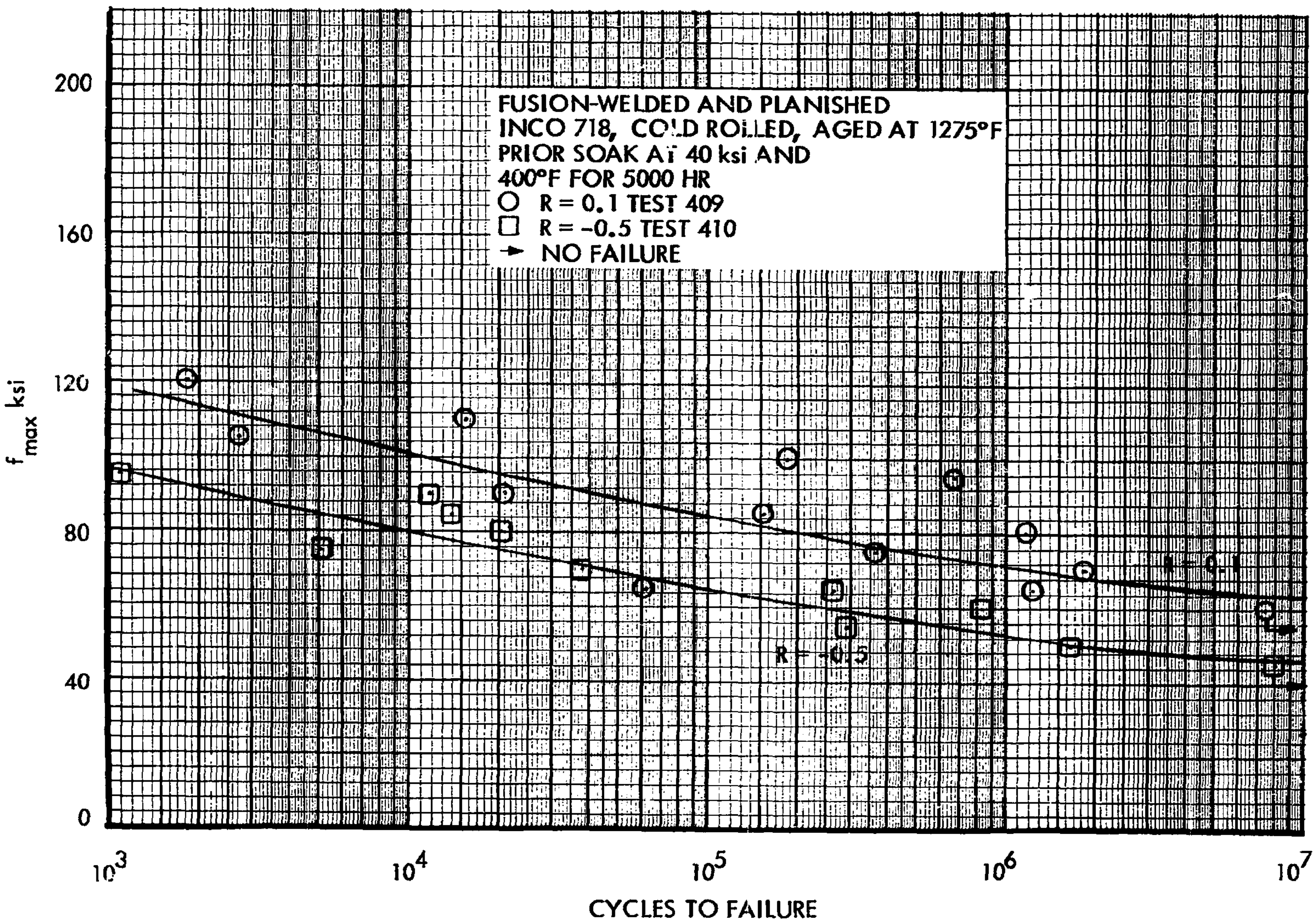


Figure 222. S-N Curves at 650°F, Fusion-Welded INCO 718, R = Constant

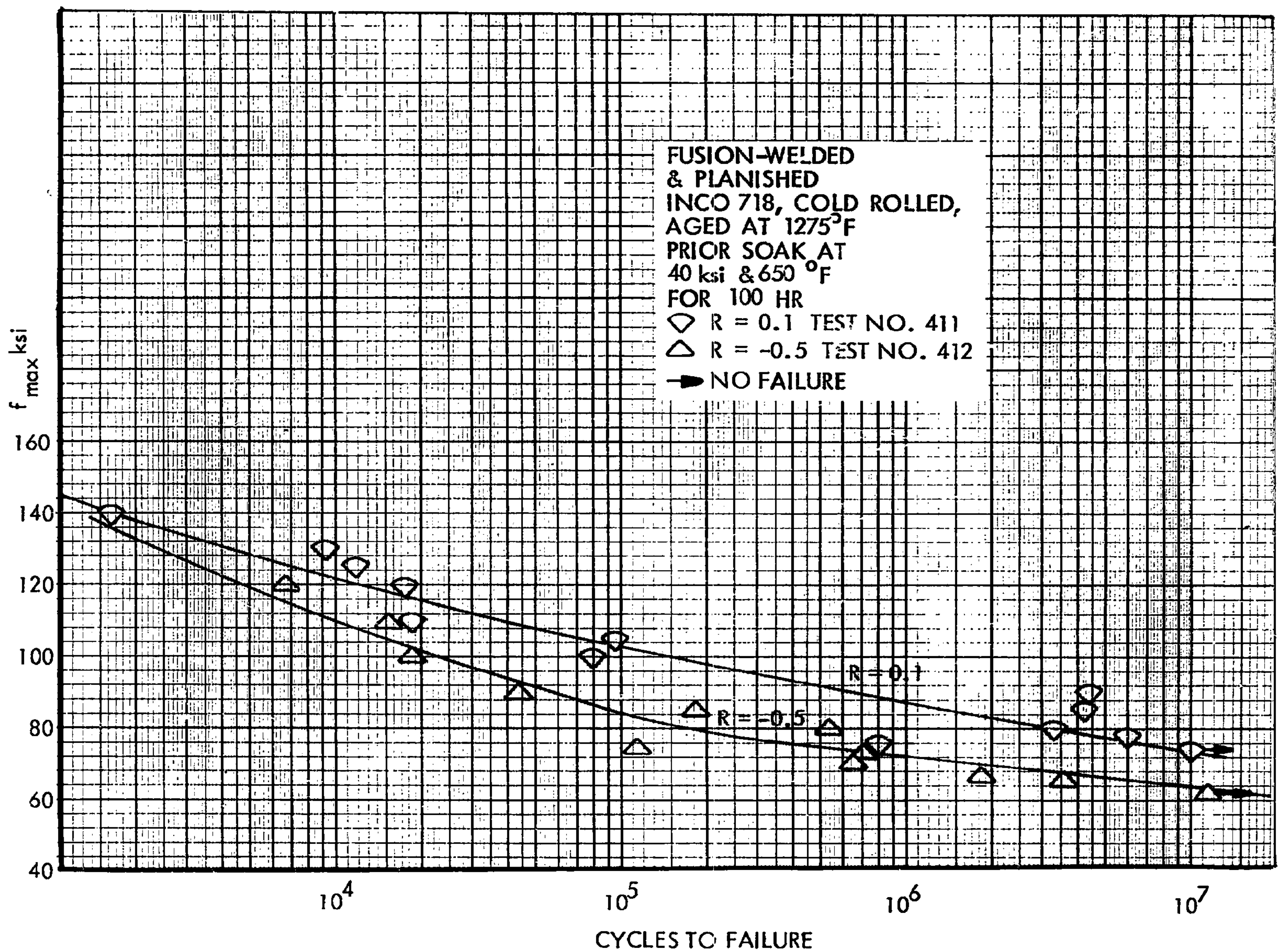


Figure 223. S-N Curves at Room Temperature, Fusion-Welded INCO 718, R = Constant

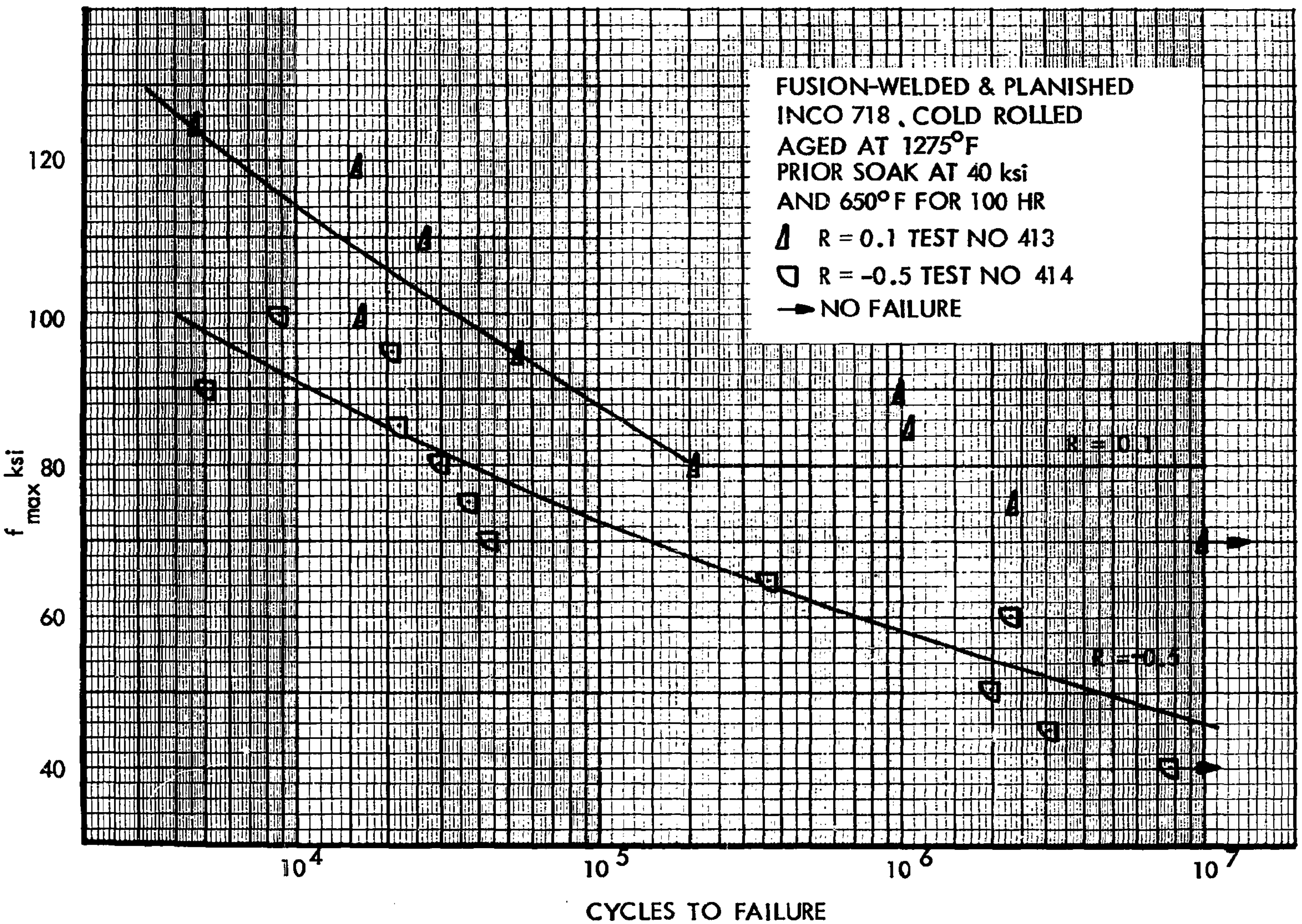


Figure 224. S-N Curves at 400°F, Fusion-Welded INCO 718, R = Constant

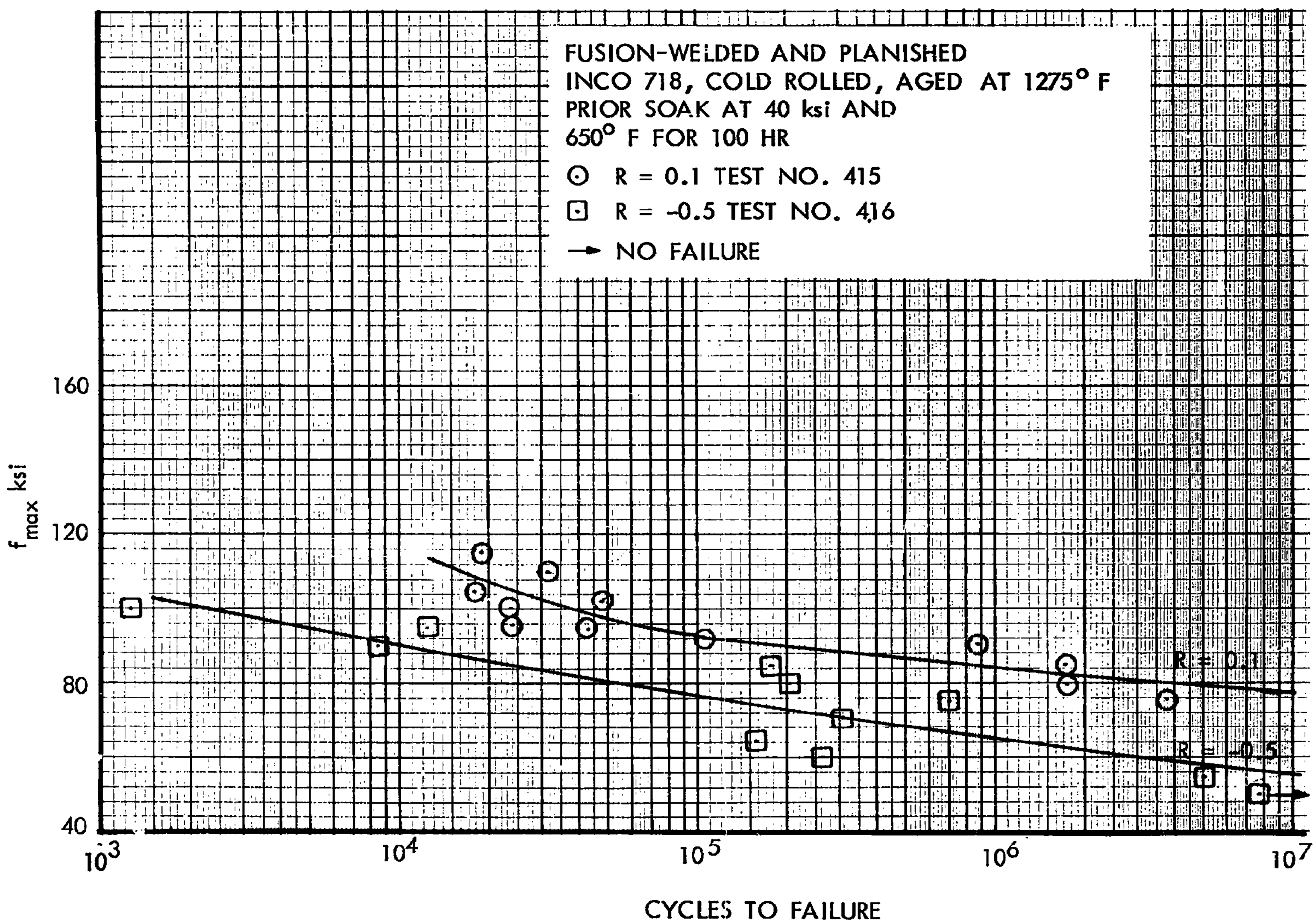


Figure 225. S-N Curves at 650°F, Fusion-Welded INCO 718, R = Constant

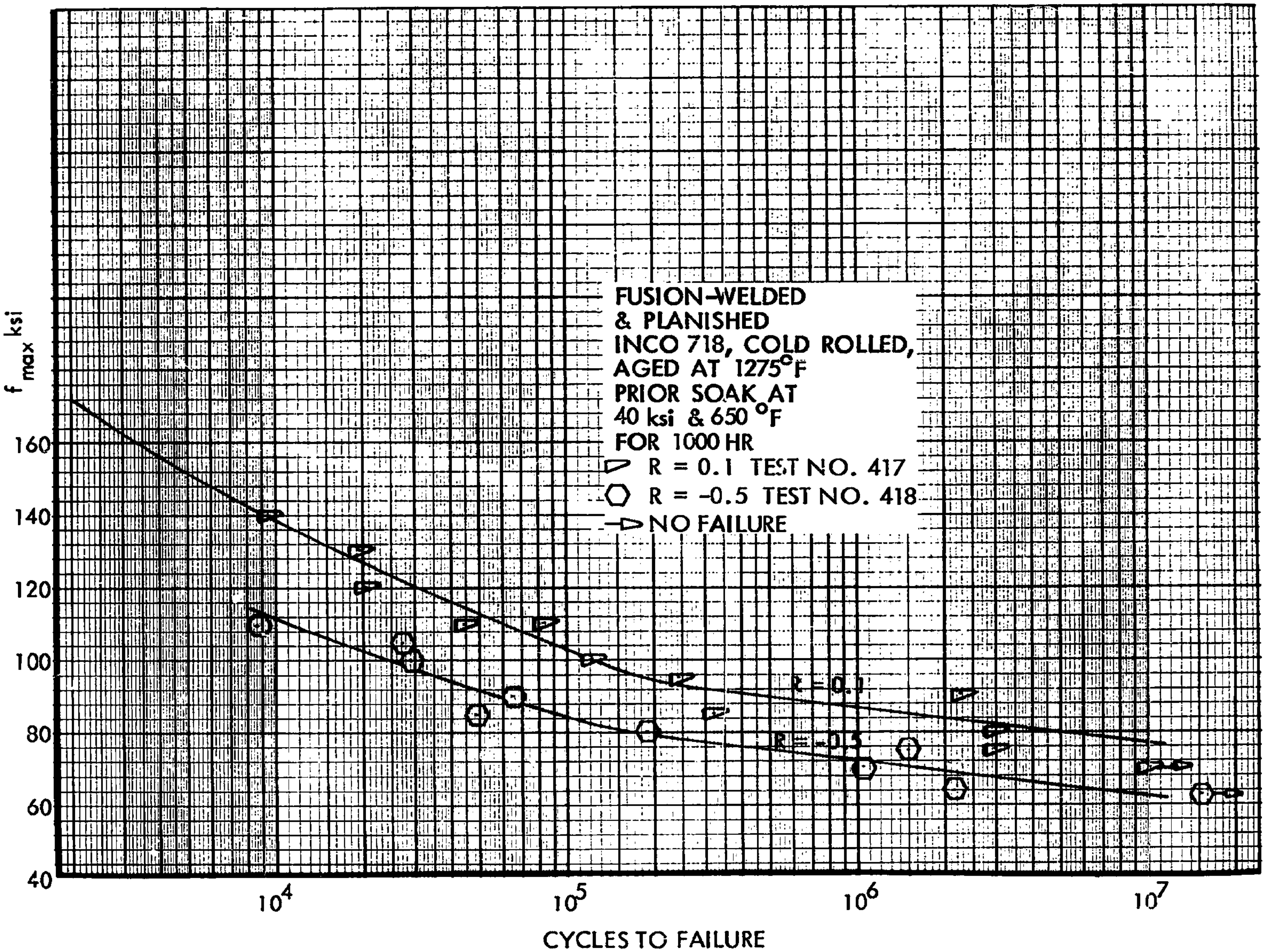


Figure 226. S-N Curves at Room Temperature, Fusion-Welded INCO 718, R = Constant

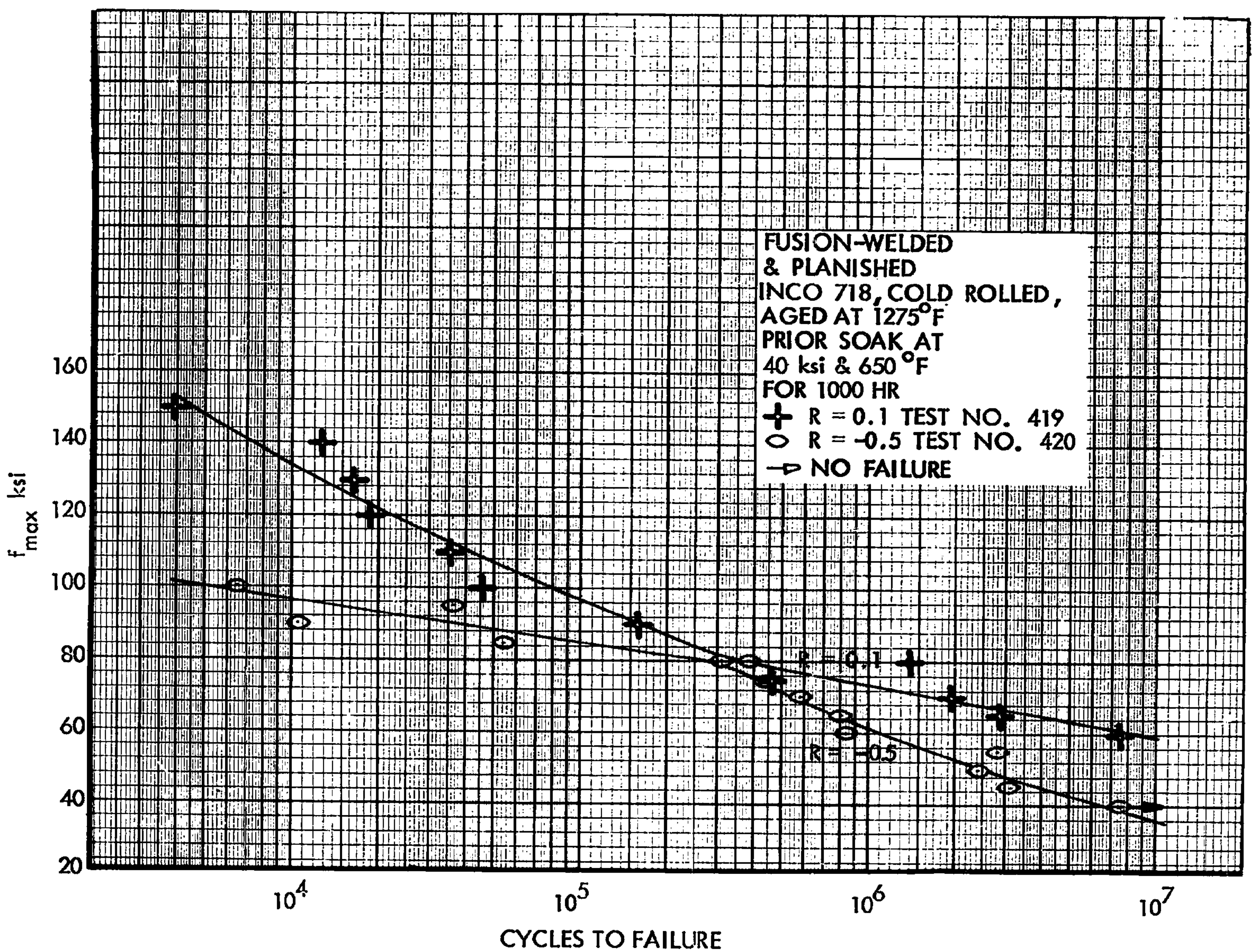


Figure 227. S-N Curves at 400°F, Fusion-Welded INCO 718, R = Constant

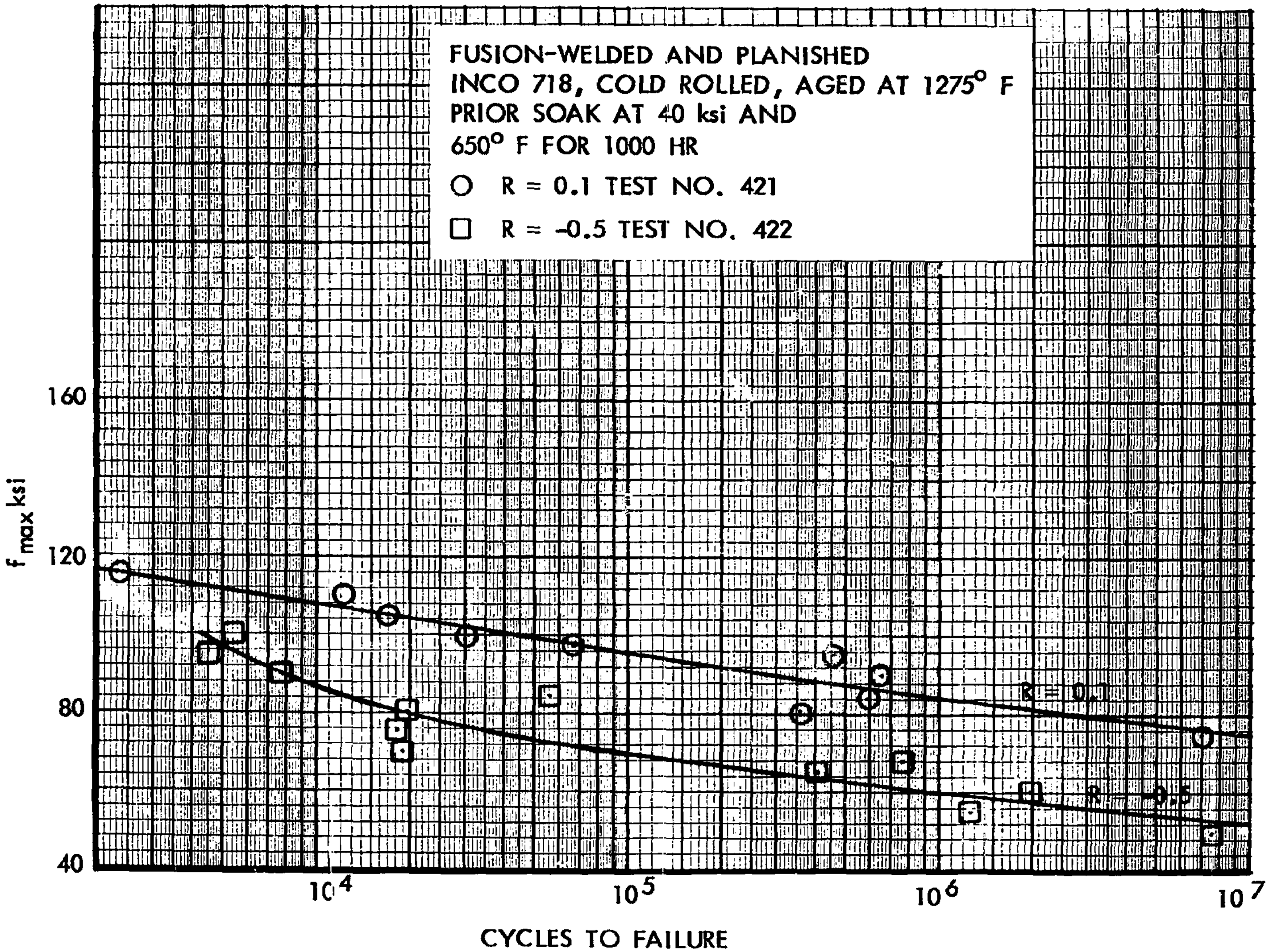


Figure 228. S-N Curves at 650°F, Fusion-Welded INCO 718, R = Constant

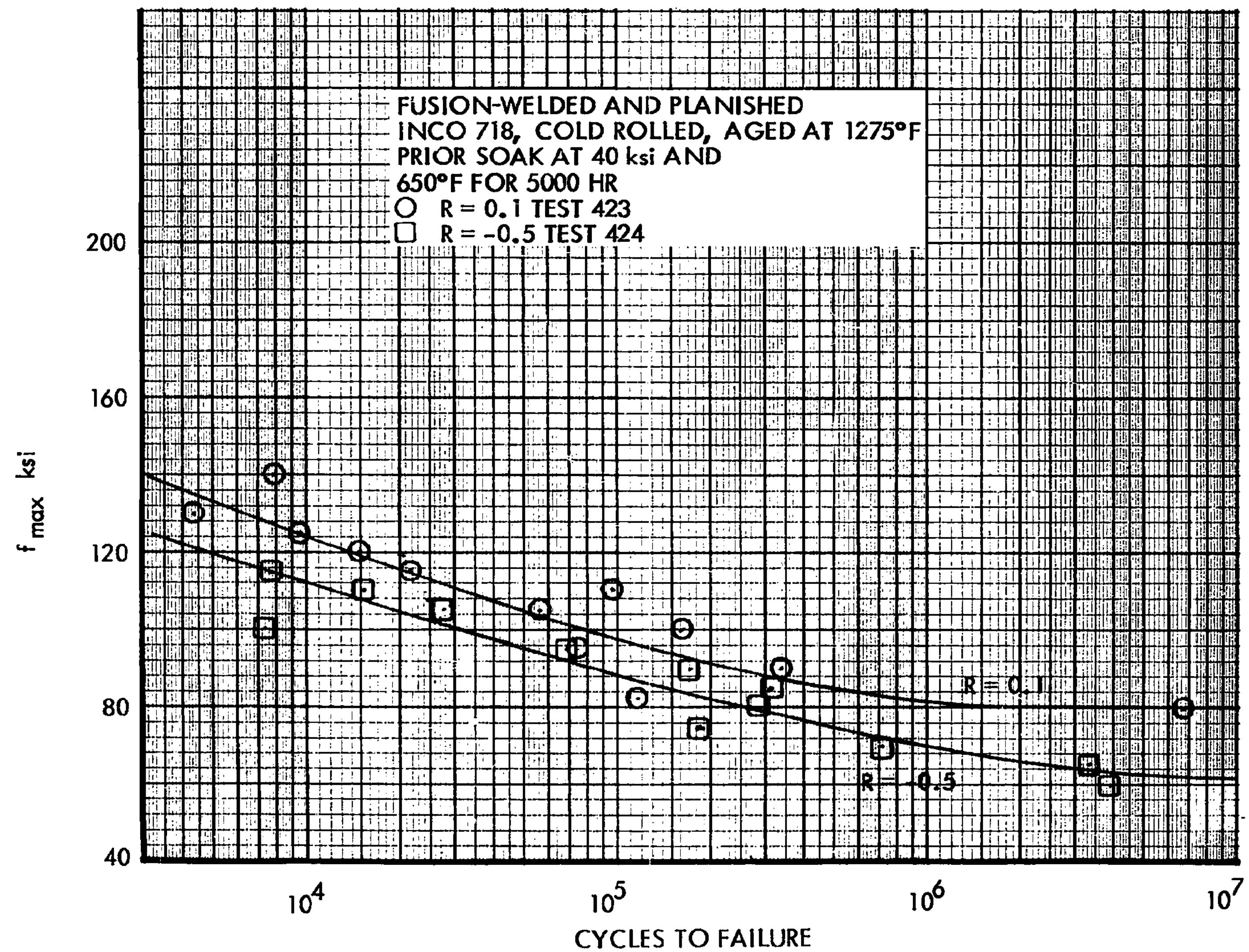


Figure 229. S-N Curves at Room Temperature, Fusion-Welded INCO 718, R = Constant

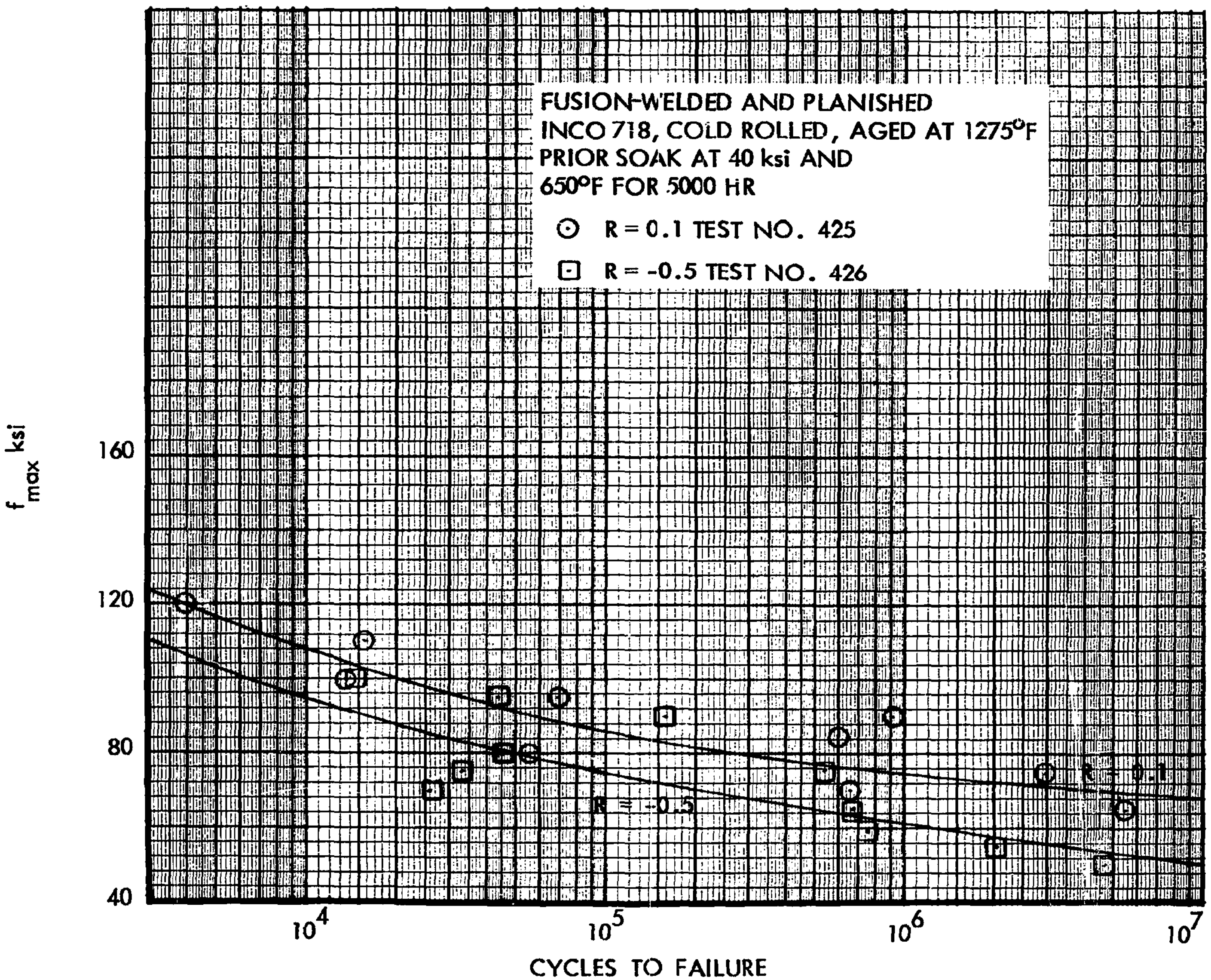


Figure 230. S-N Curves at 400°F, Fusion-Welded INCO 718, R = Constant

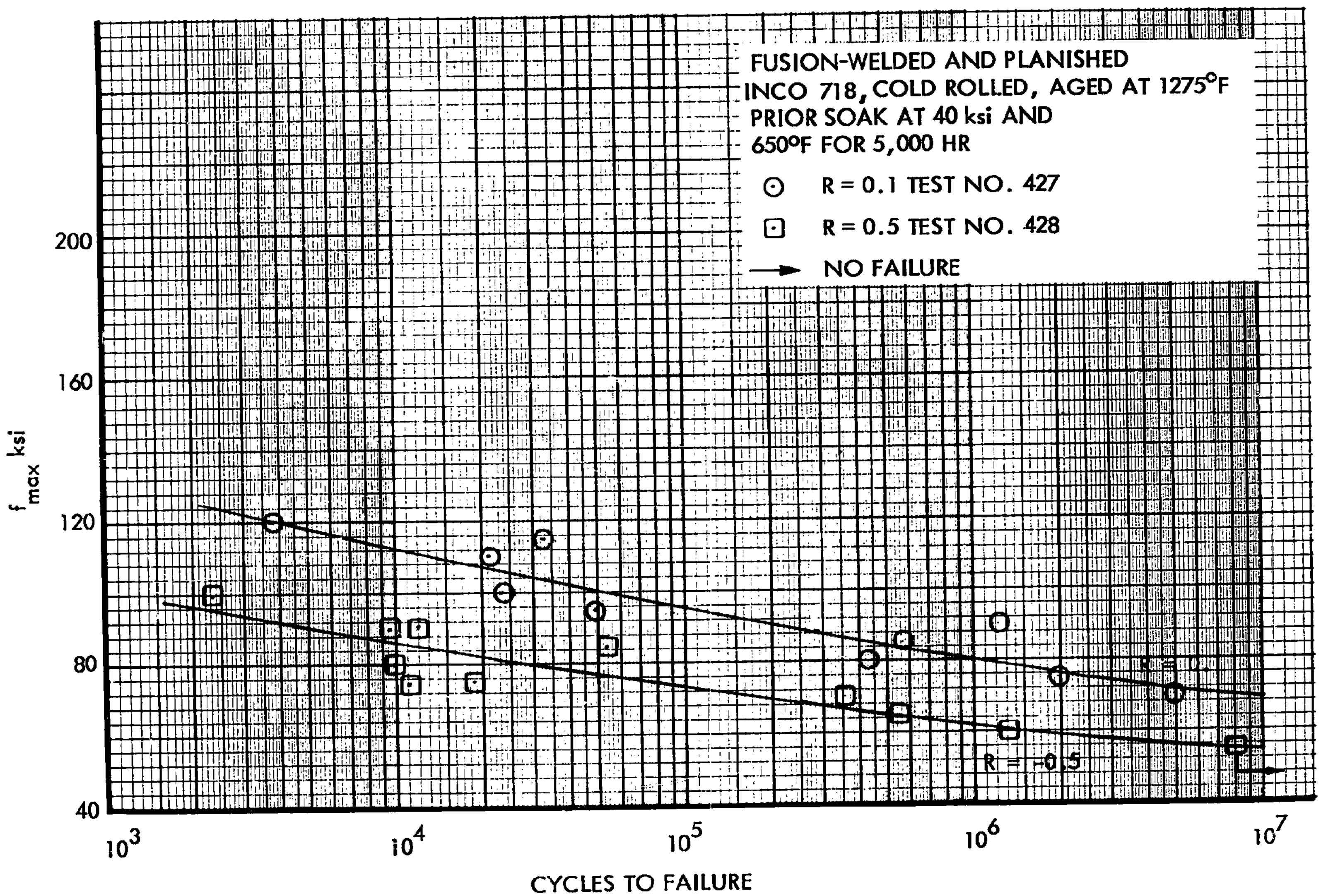


Figure 231. S-N Curves at 650°F, Fusion-Welded INCO 718, R = Constant

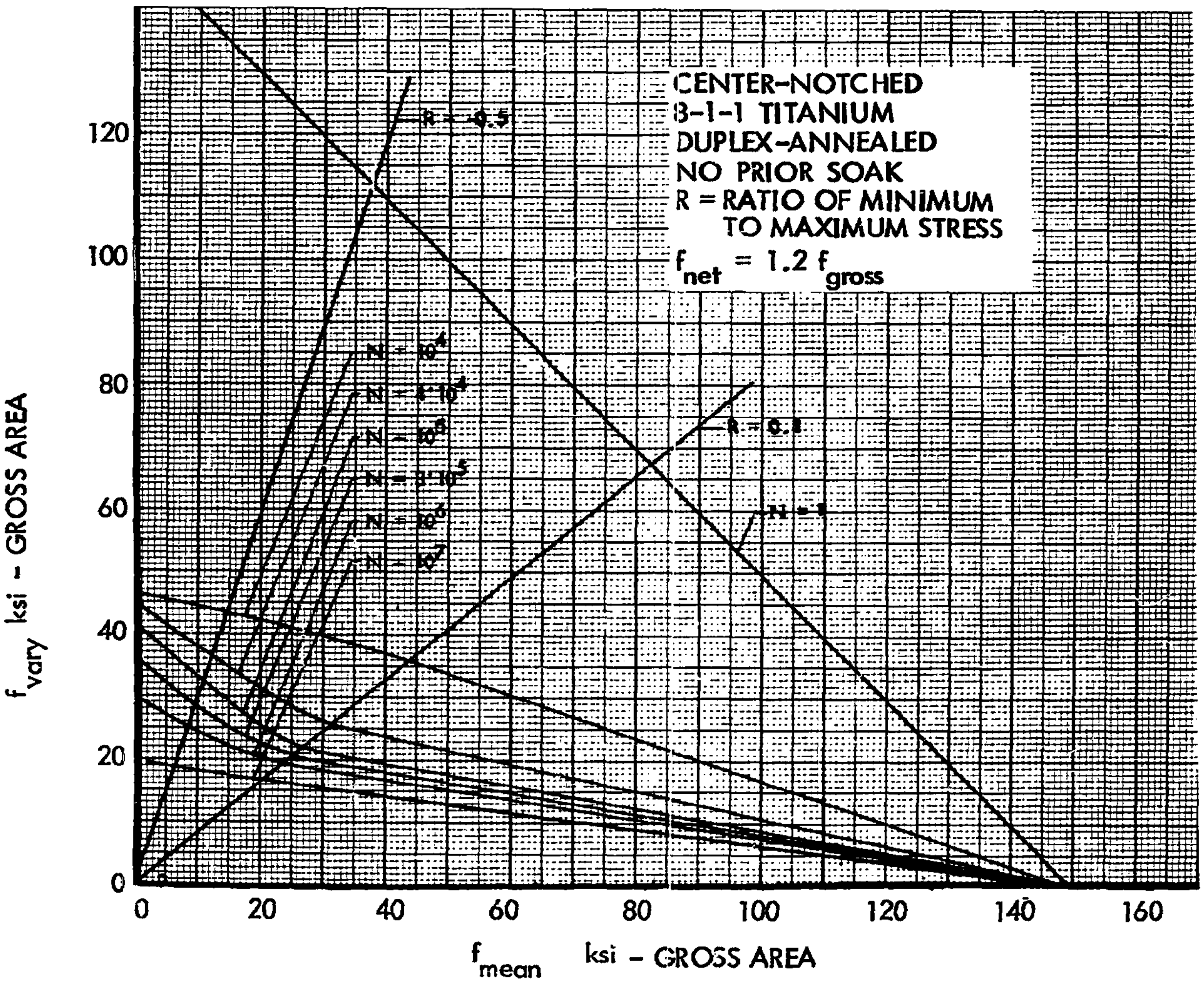


Figure 232. S-N Diagram at Room Temperature, Center-Notched 8-1-1 Titanium

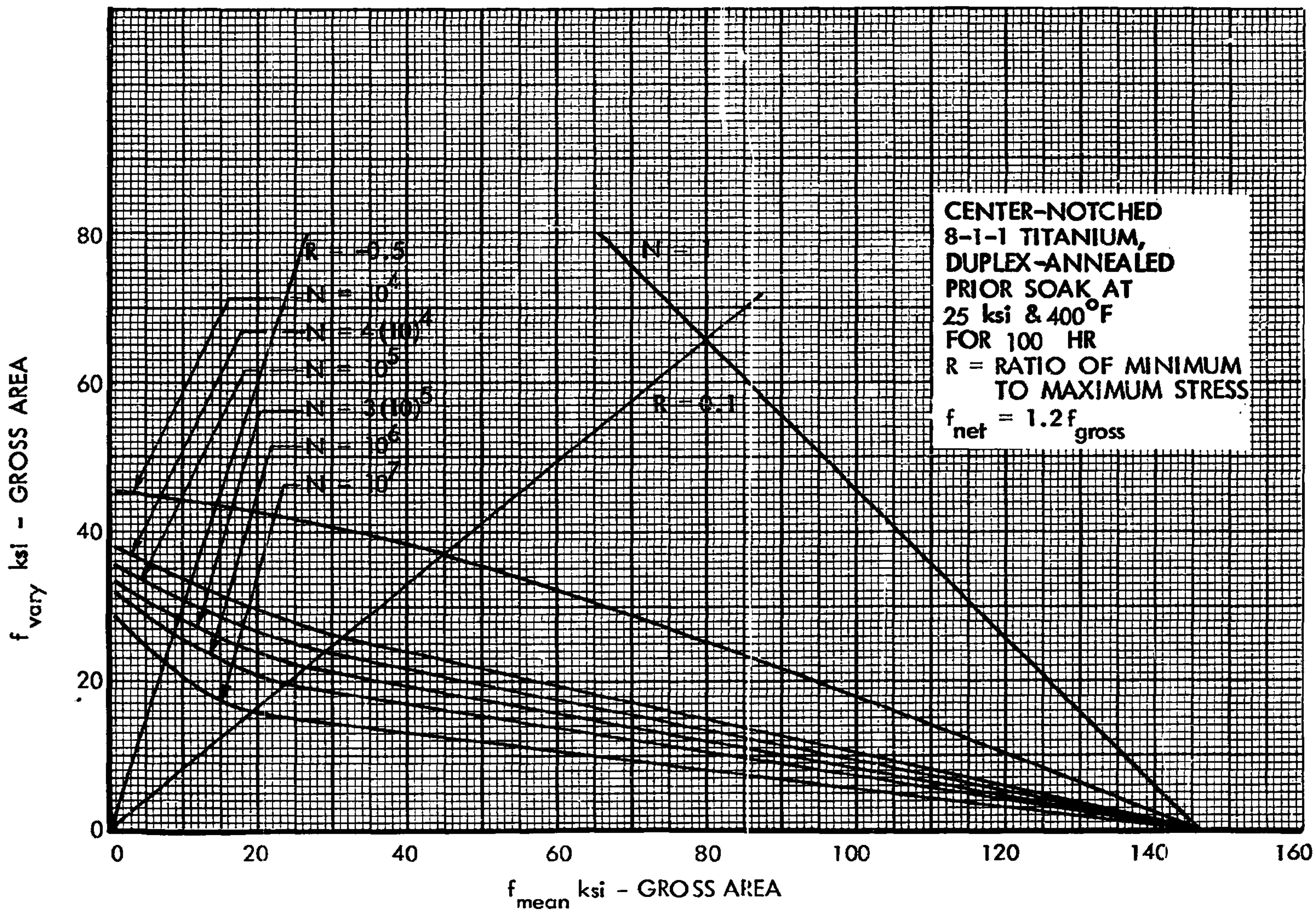


Figure 233. S-N Diagram at Room Temperature, Center-Notched 8-1-1 Titanium

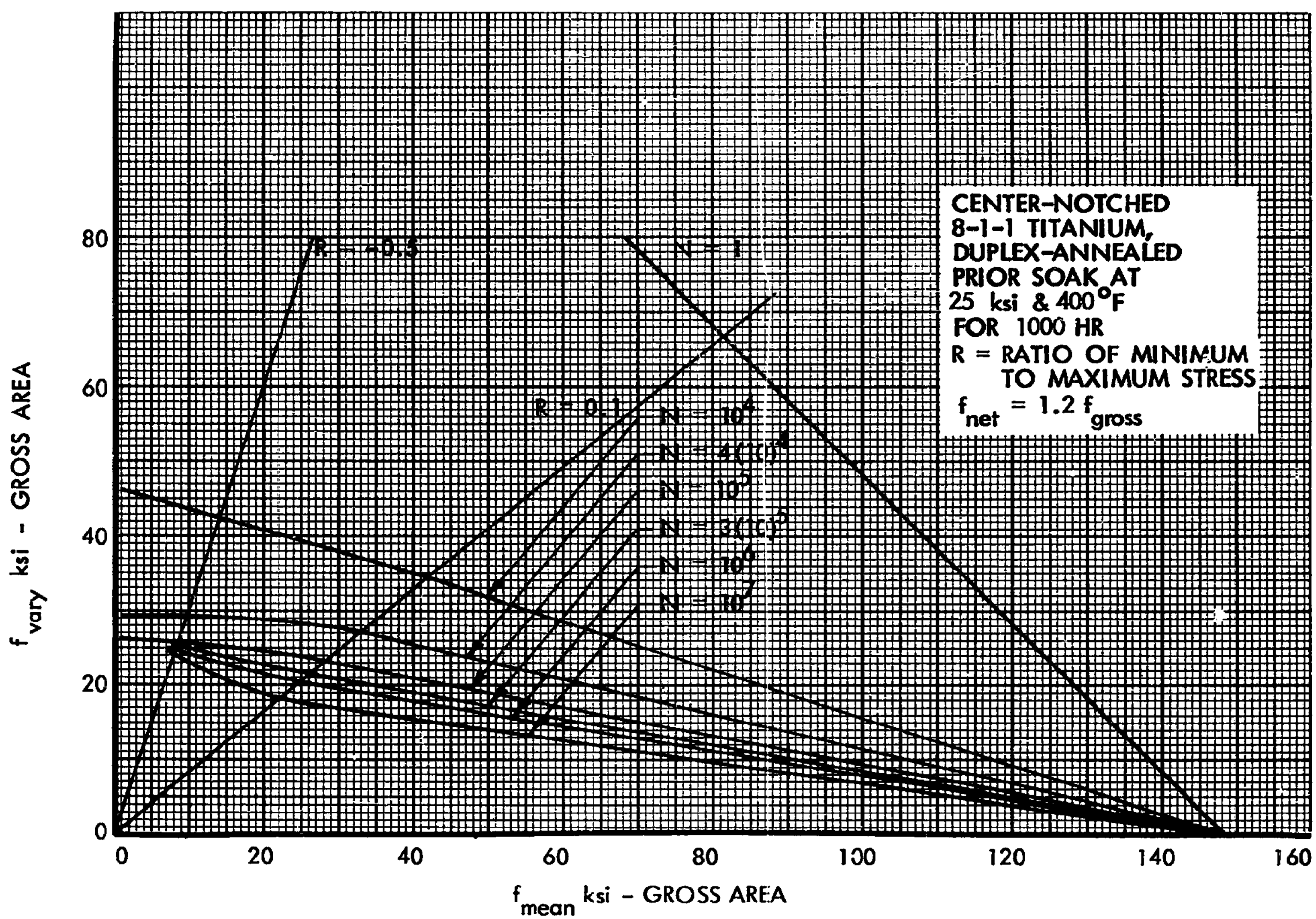


Figure 234. S-N Diagram at Room Temperature, Center-Notched 8-1-1 Titanium

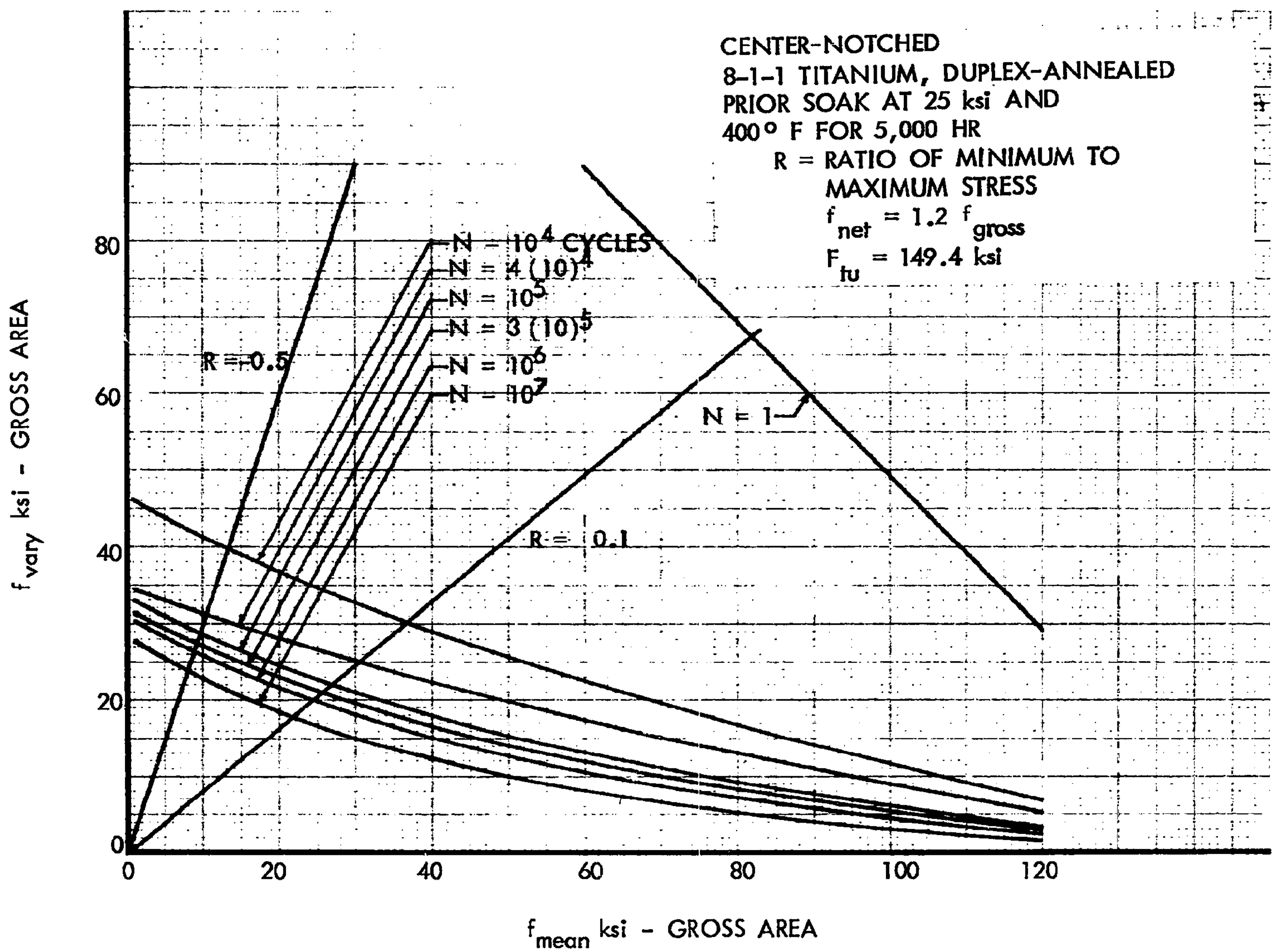


Figure 235. S-N Diagram at Room Temperature, Center-Notched 8-1-1 Titanium

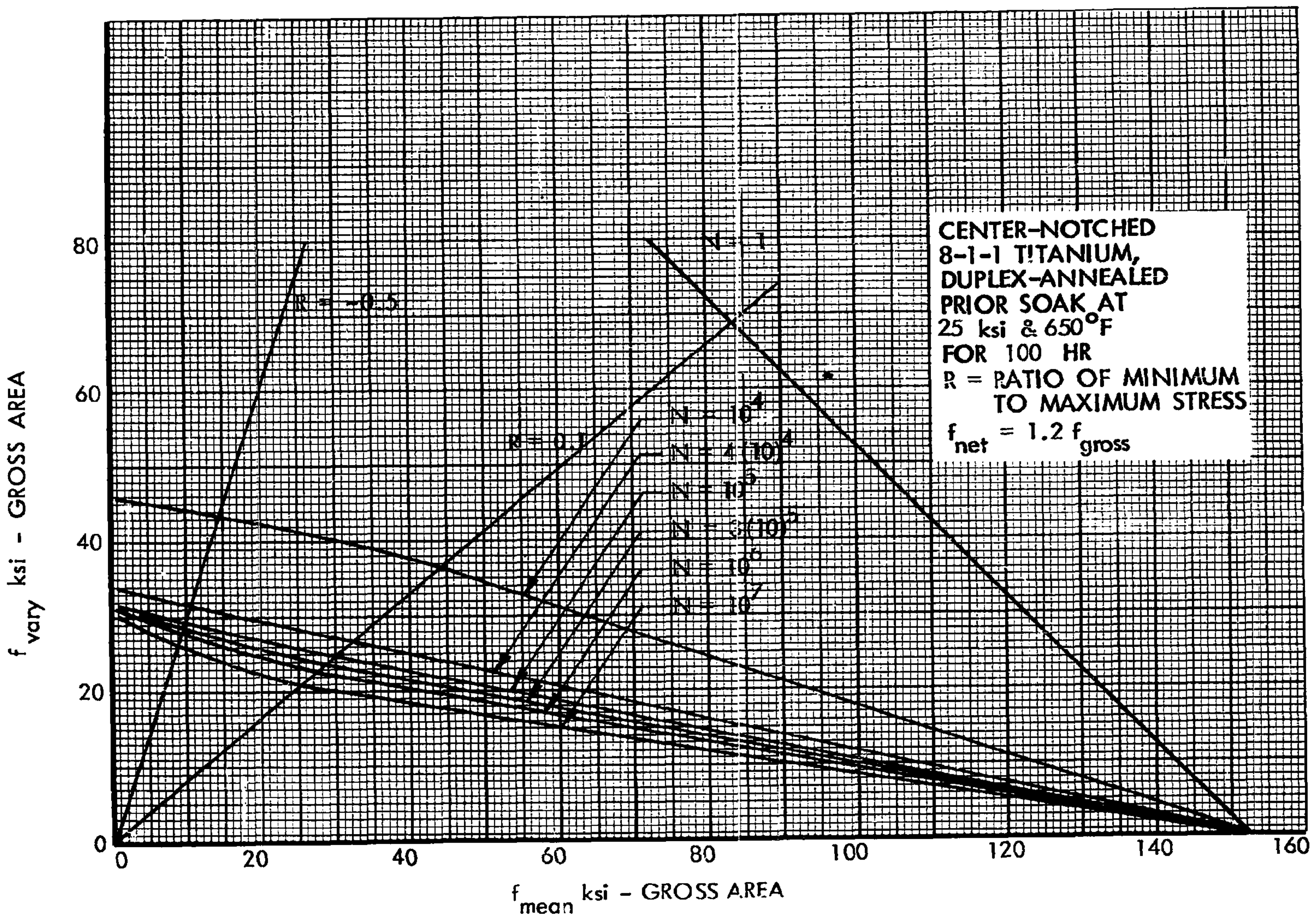


Figure 236. S-N Diagram at Room Temperature, Center-Notched 8-1-1 Titanium

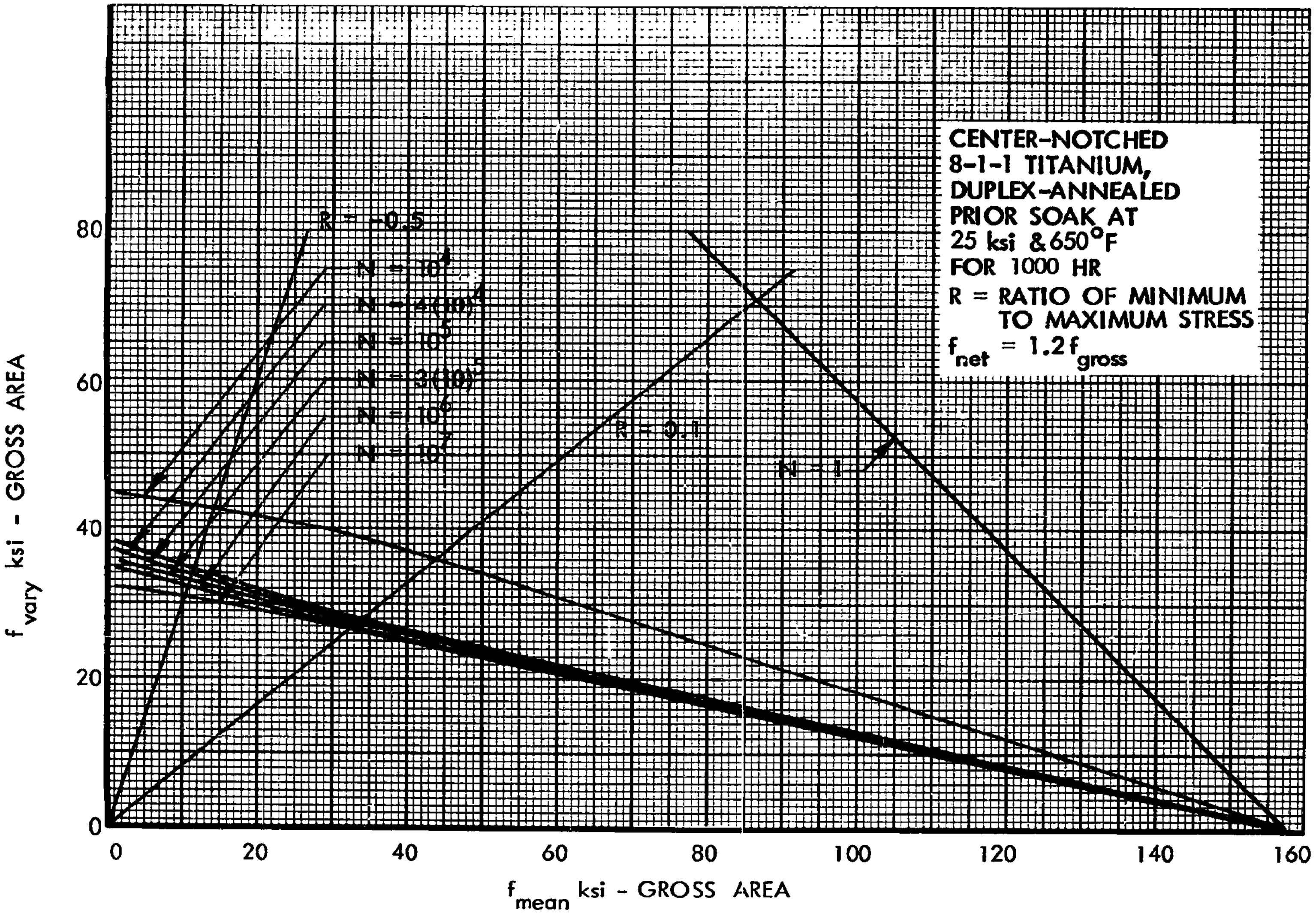


Figure 237. S-N Diagram at Room Temperature, Center-Notched 8-1-1 Titanium

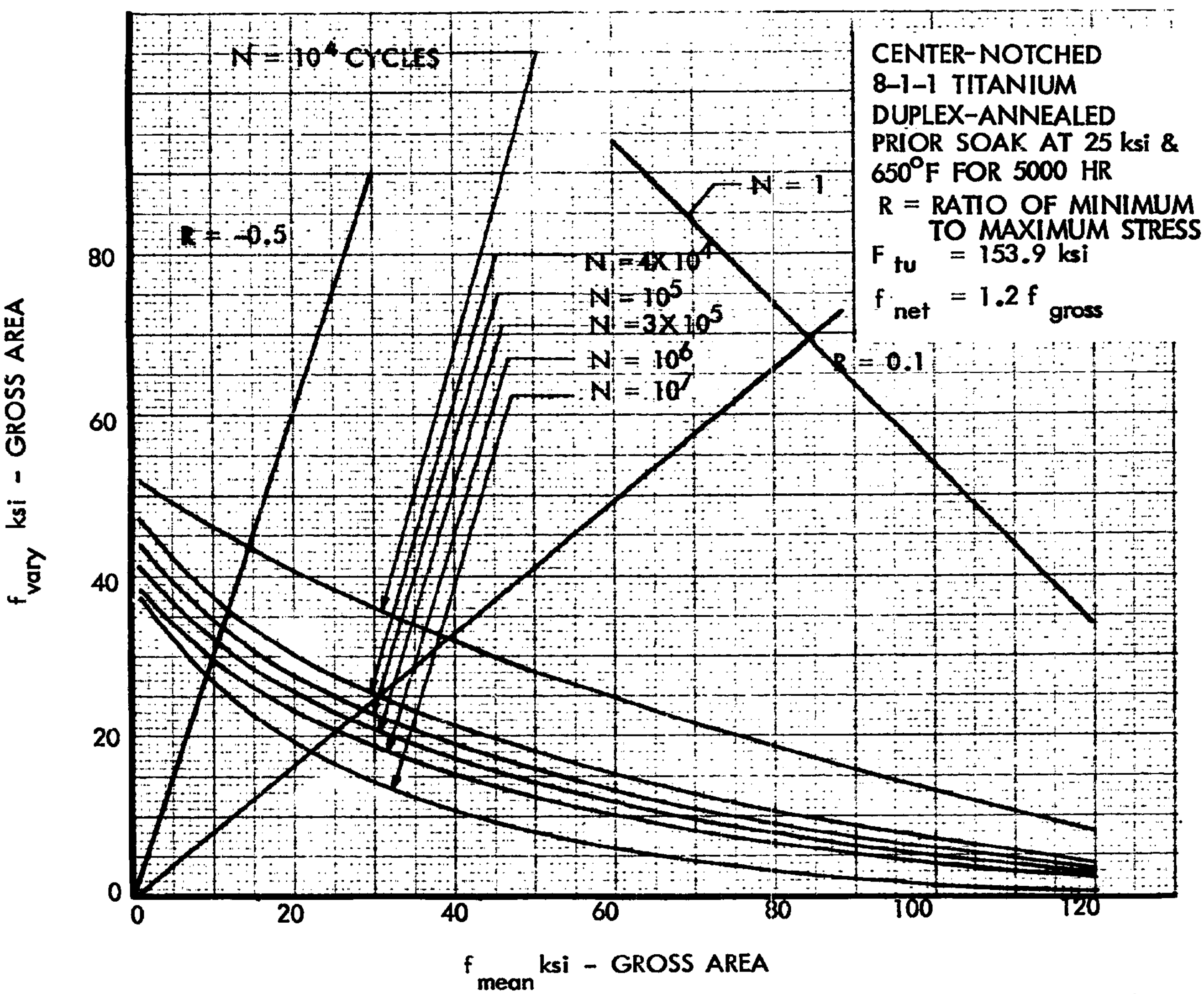


Figure 238. S-N Diagram at Room Temperature, Center-Notched 8-1-1 Titanium

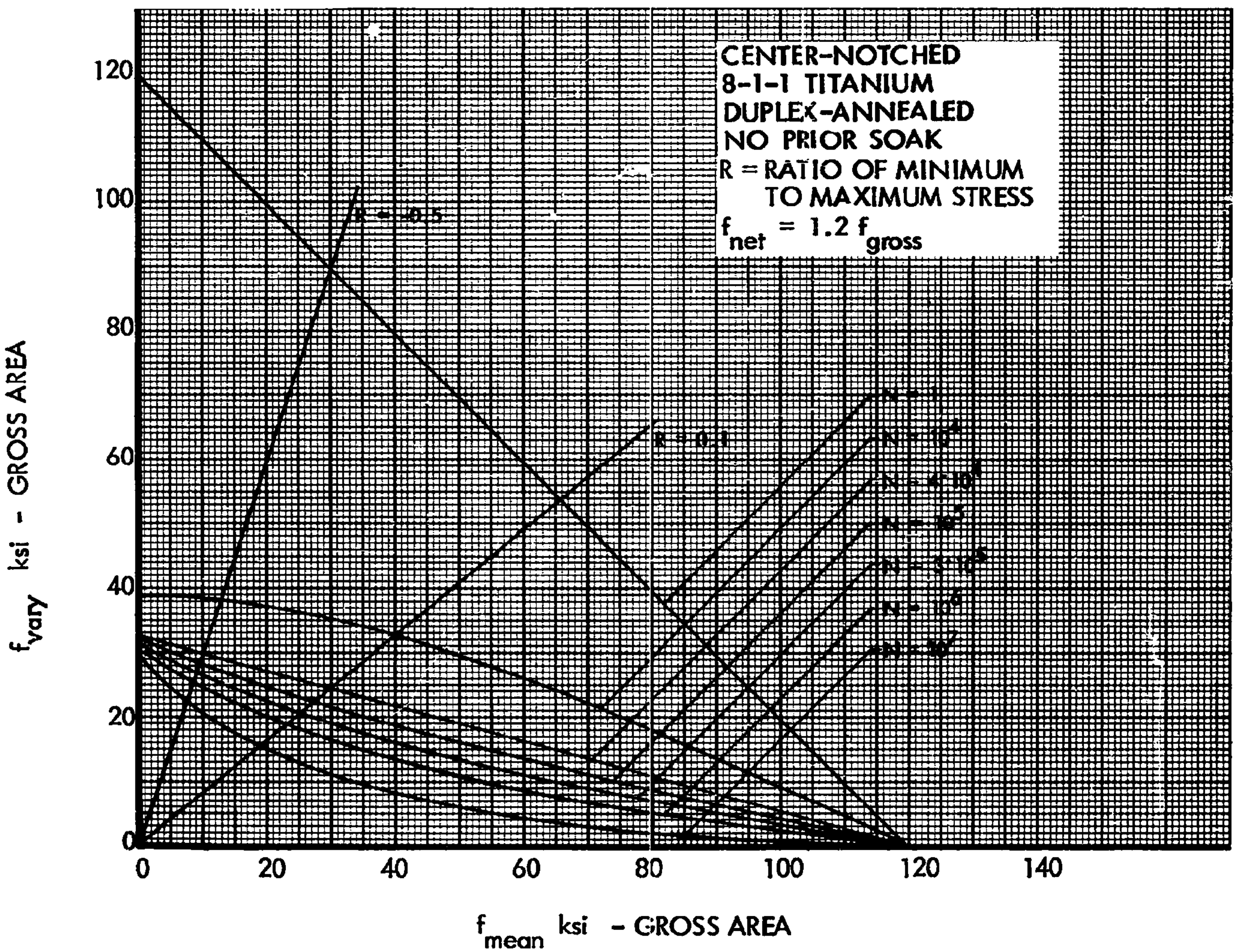


Figure 239. S-N Diagram at 400°F, Center-Notched 8-1-1 Titanium

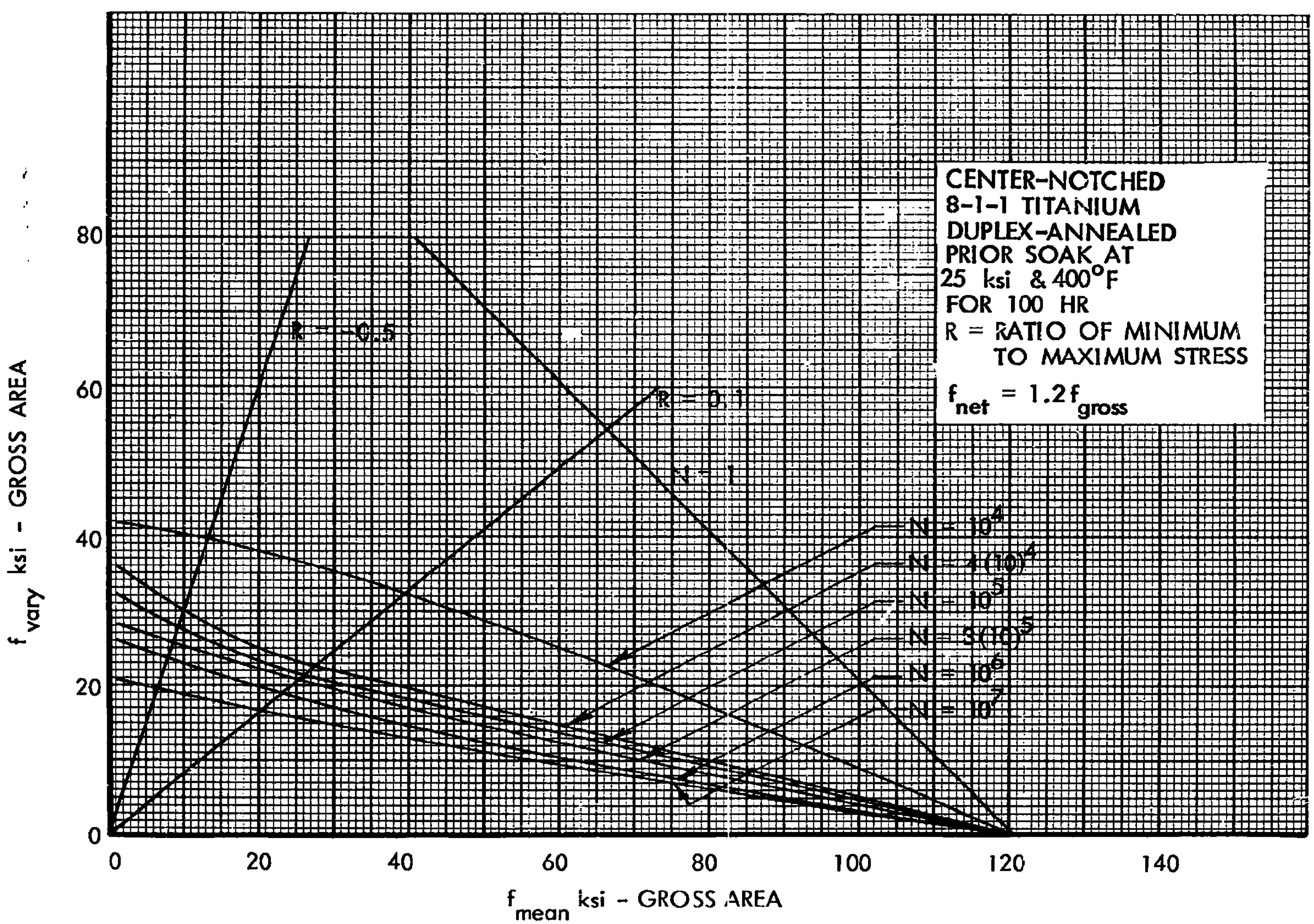


Figure 240. S-N Diagram at 400°F, Center-Notched 8-1-1 Titanium

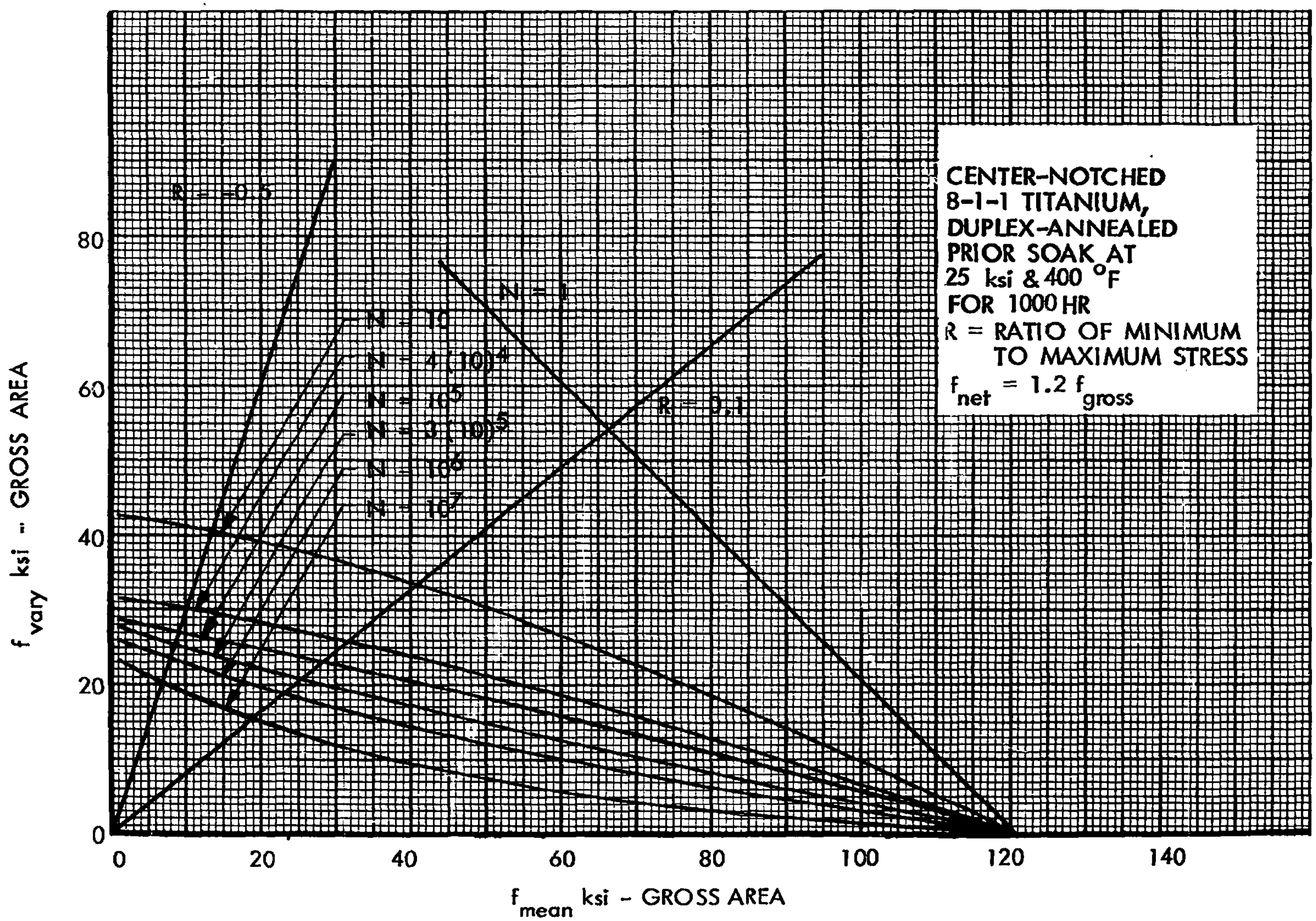


Figure 24l. S-N Diagram at 400°F, Center-Notched 8-1-1 Titanium

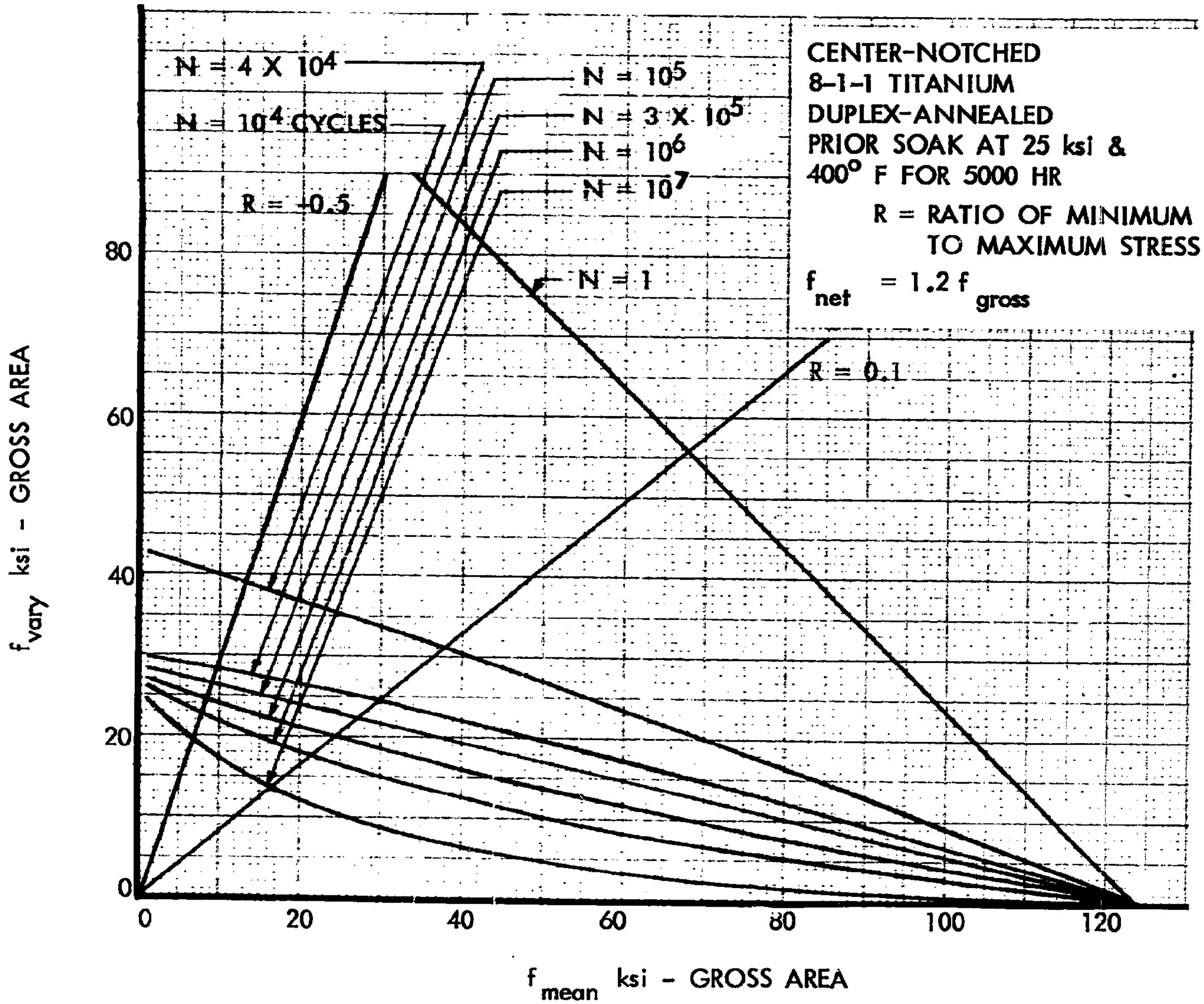


Figure 242. S-N Diagram at 400°F, Center-Notched 8-1-1 Titanium

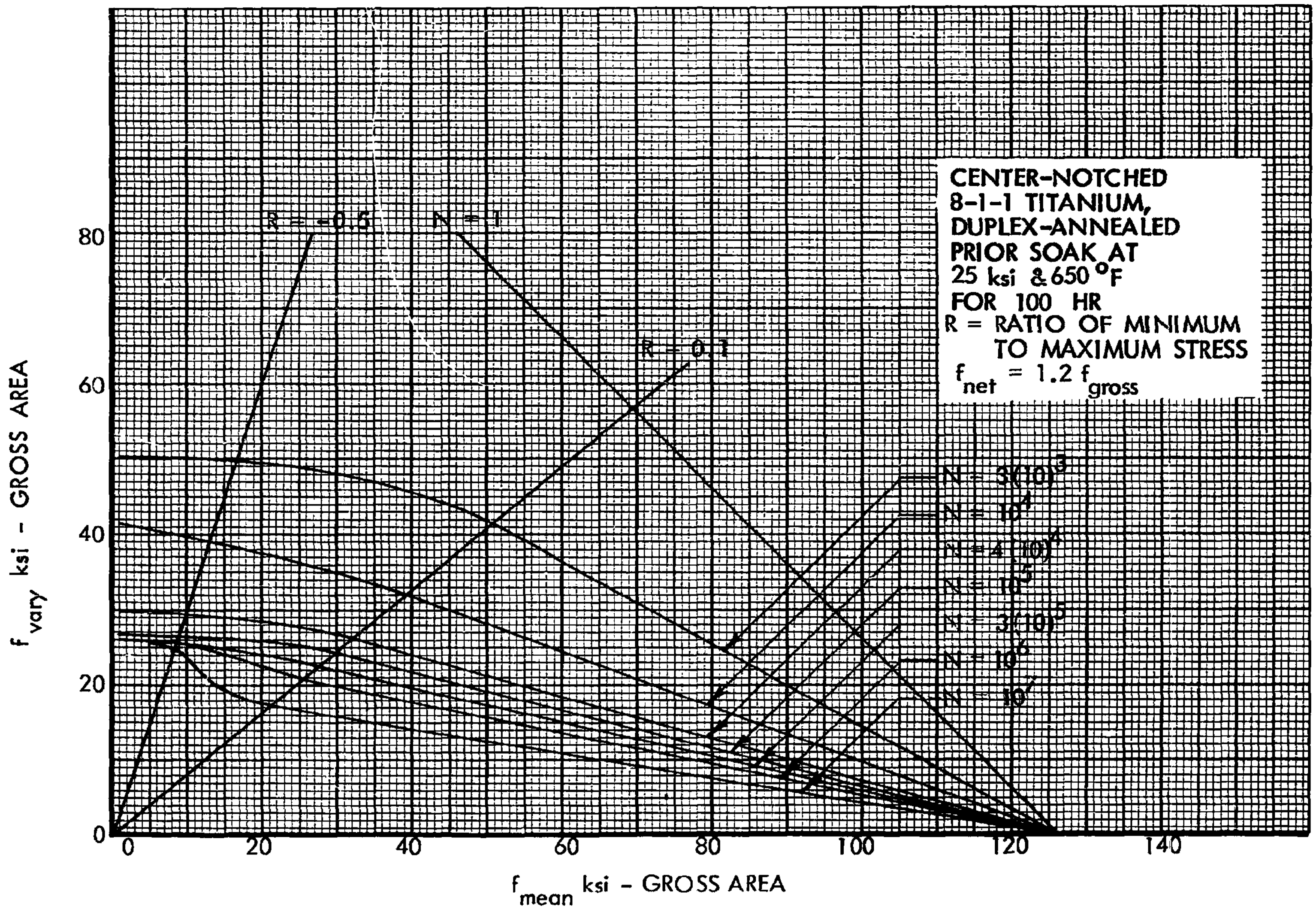


Figure 243. S-N Diagram at 400°F, Center-Notched 8-1-1 Titanium

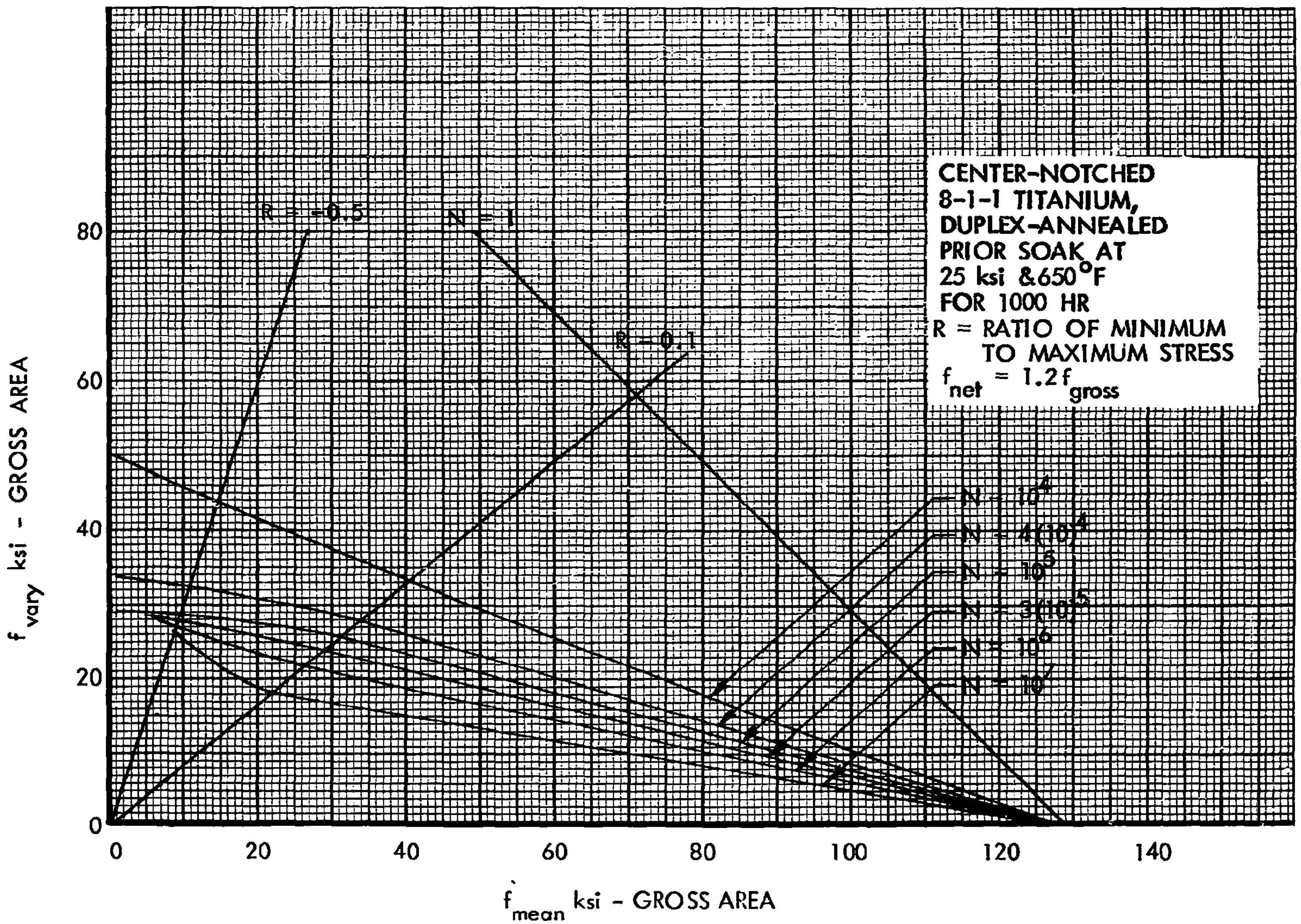


Figure 244. S-N Diagram at 400°F, Center-Notched 8-1-1 Titanium

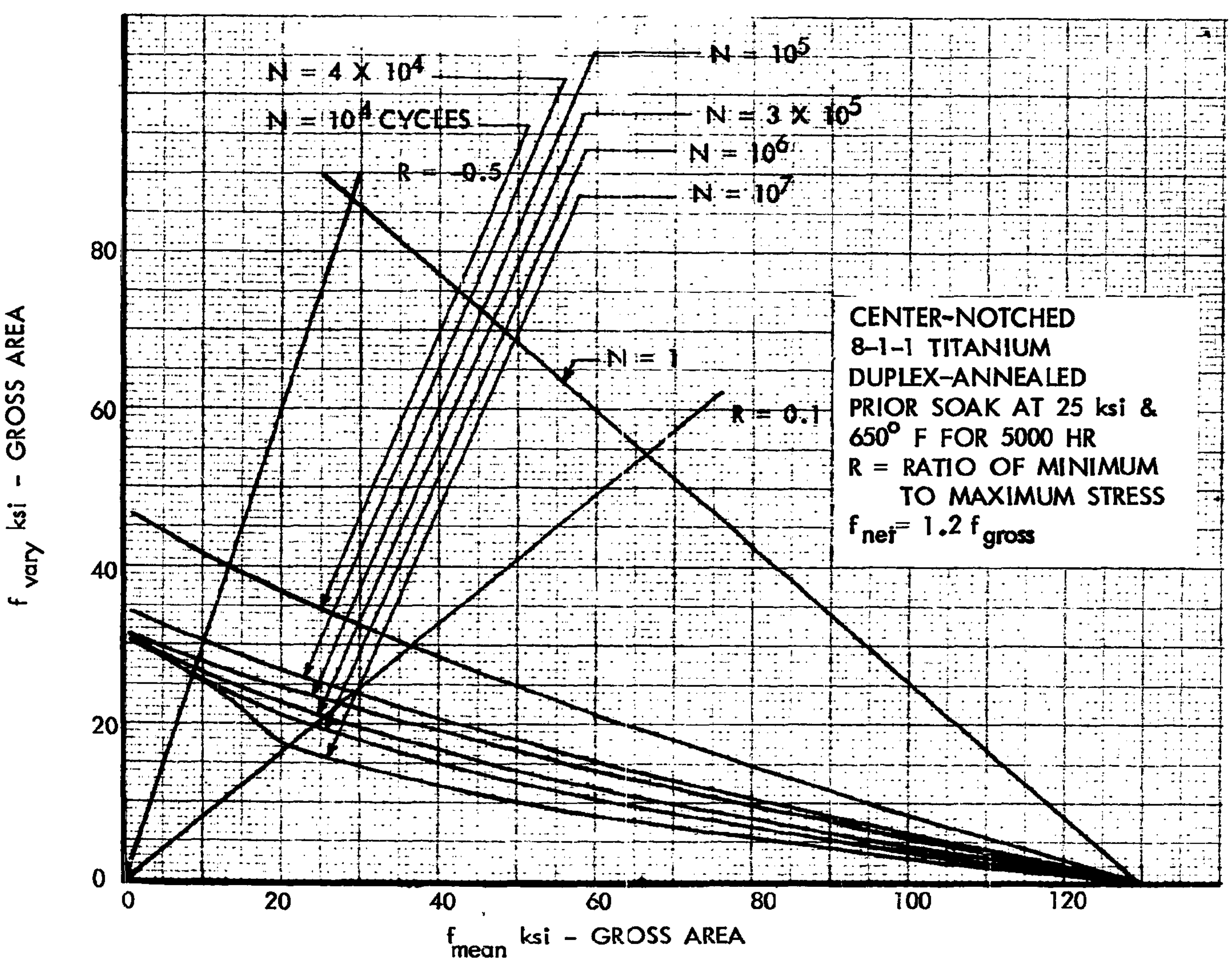


Figure 245. S-N Diagram at 400°F, Center-Notched 8-1-1 Titanium

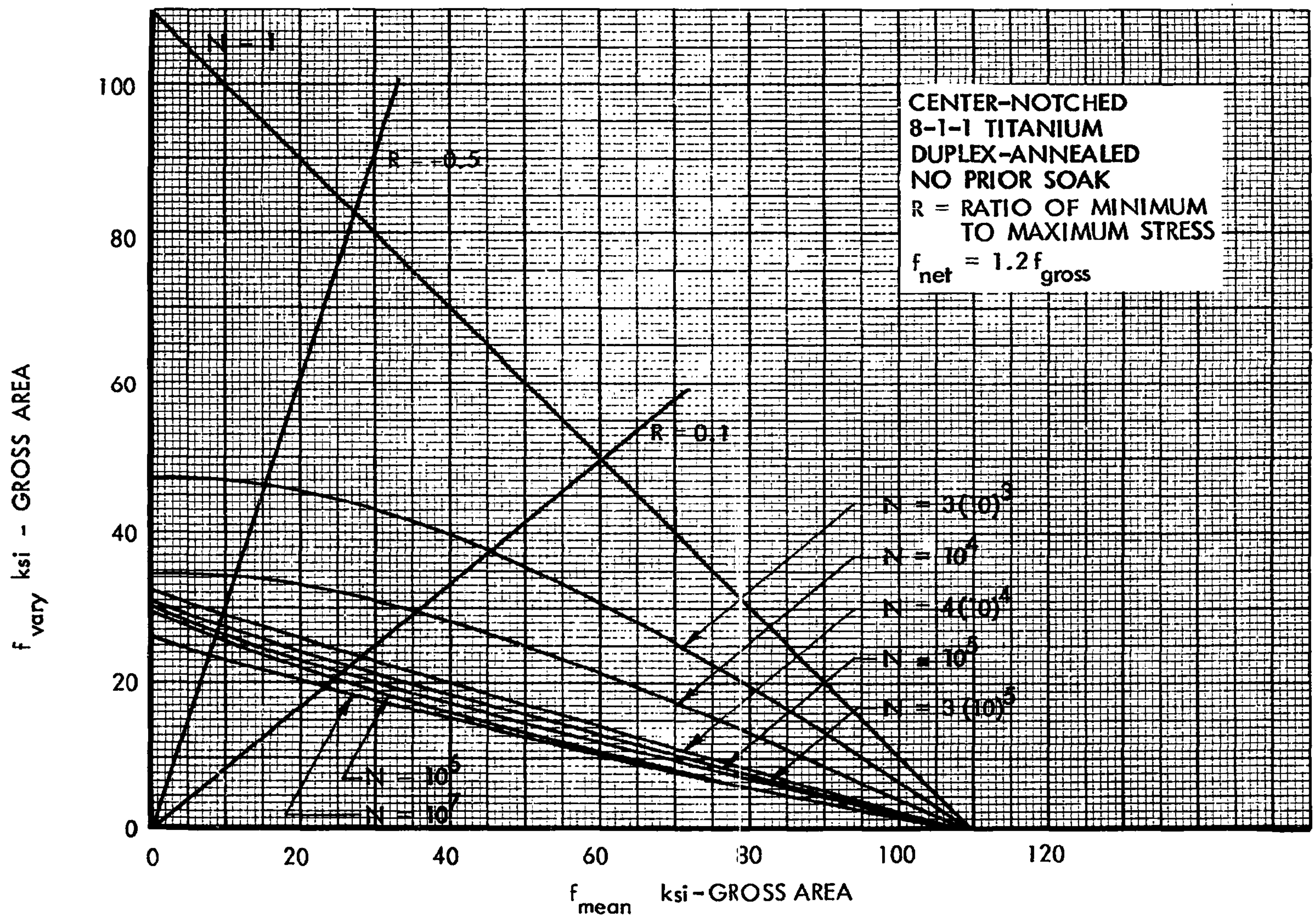


Figure 246. S-N Diagram at 650°F, Center-Notched 8-1-1 Titanium

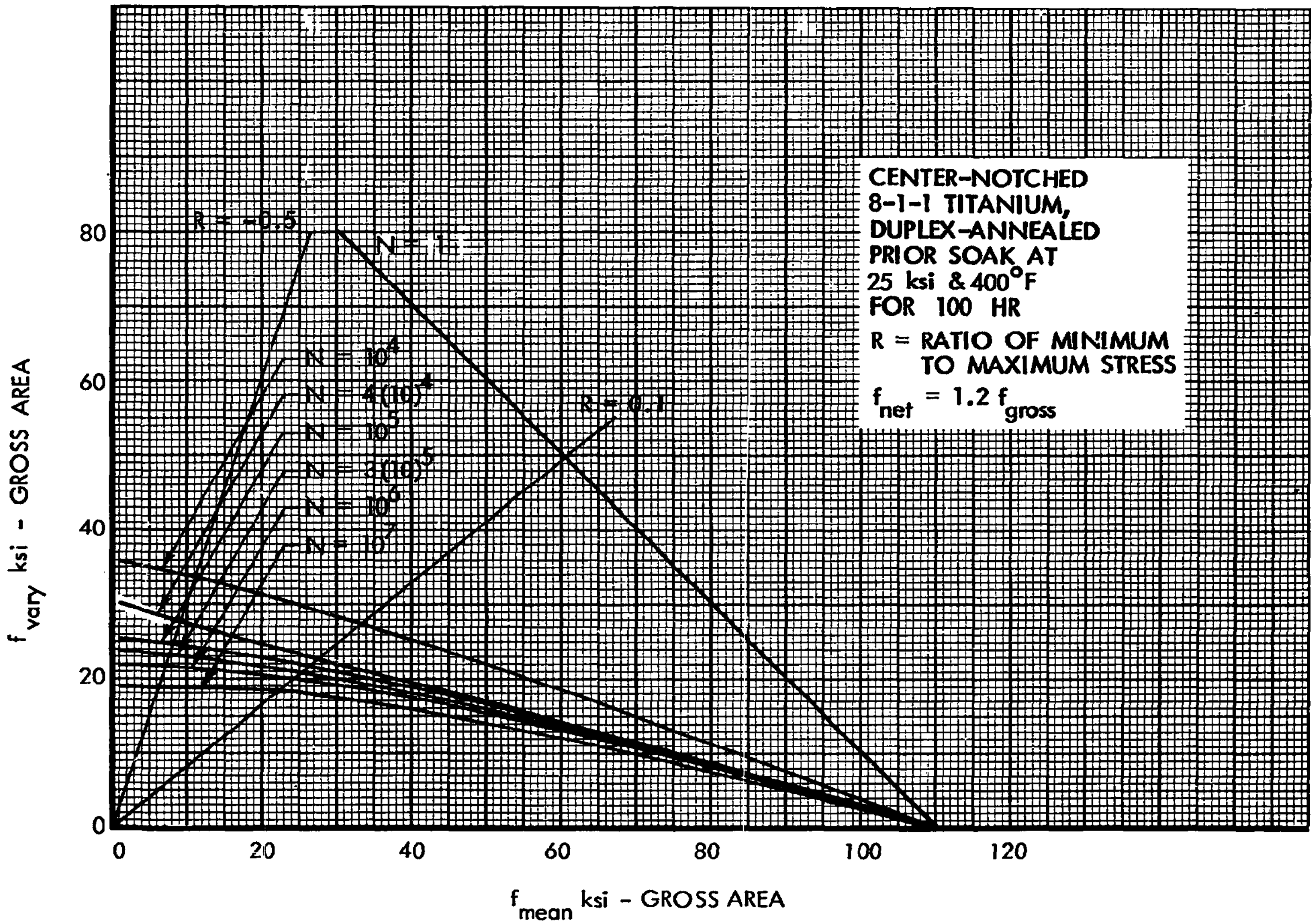


Figure 247. S-N Diagram at 650°F, Center-Notched 8-1-1 Titanium

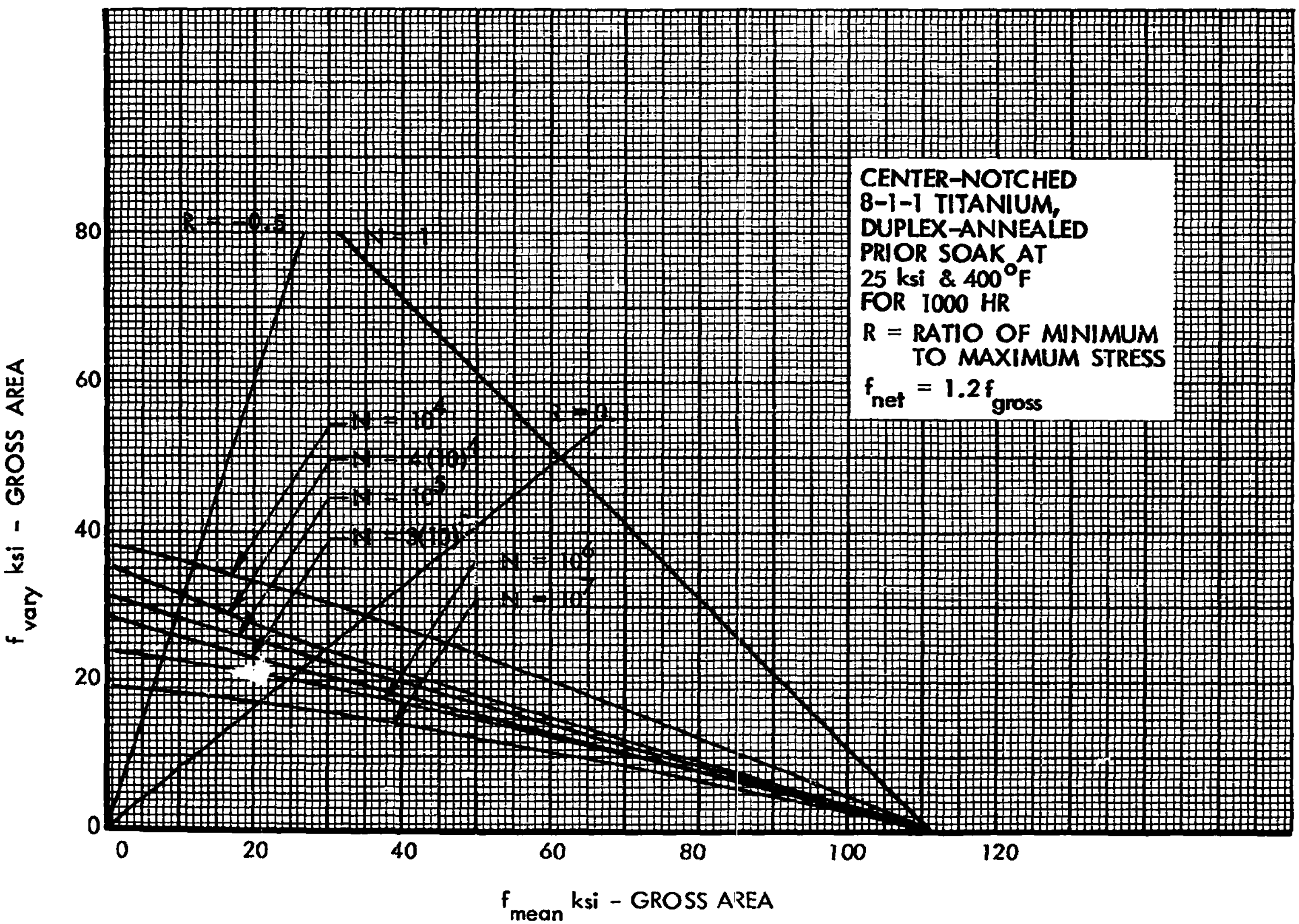


Figure 248. S-N Diagram at 650°F, Center-Notched 8-1-1 Titanium

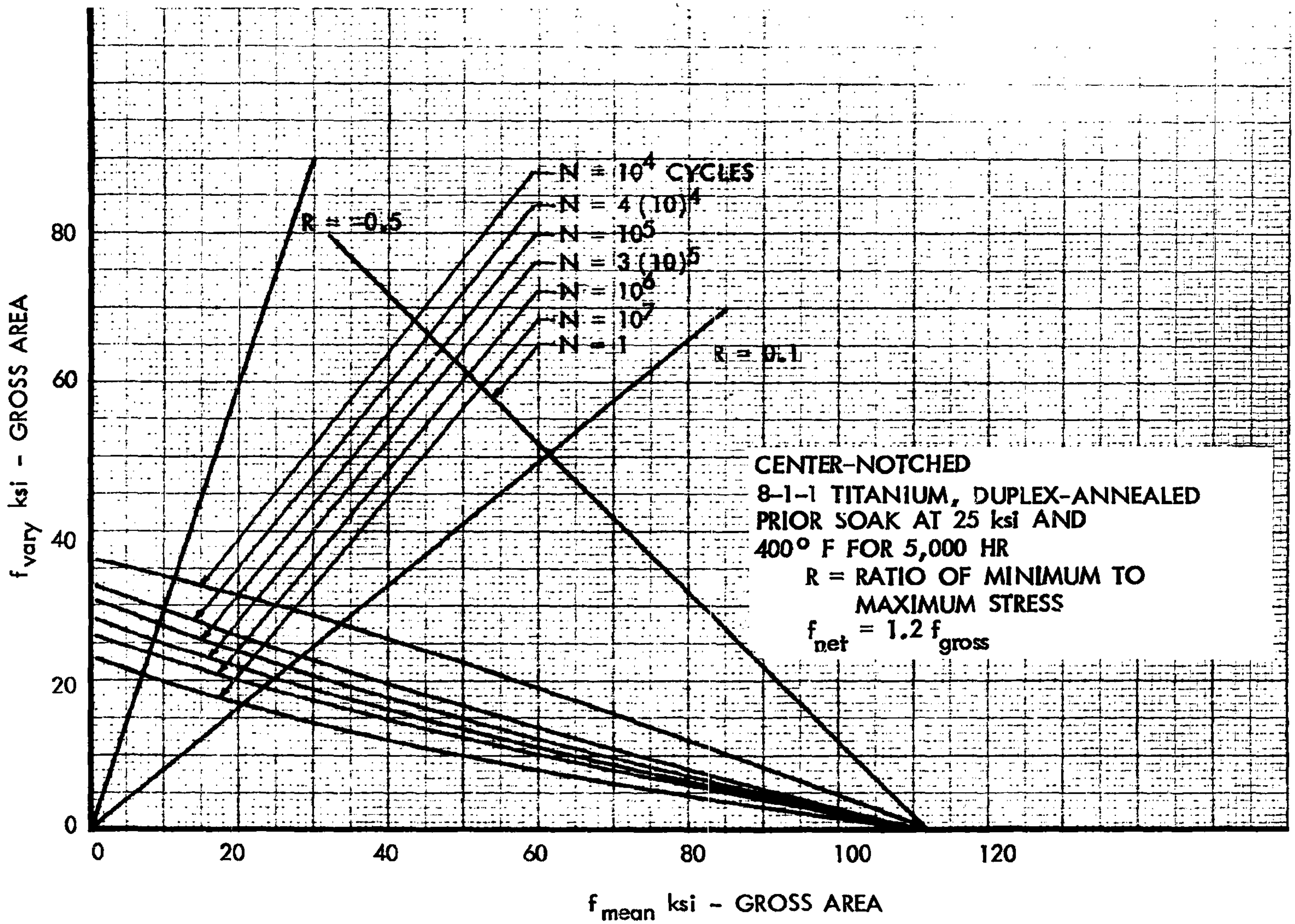


Figure 249. S-N Diagram at 650°F, Center-Notched 8-1-1 Titanium

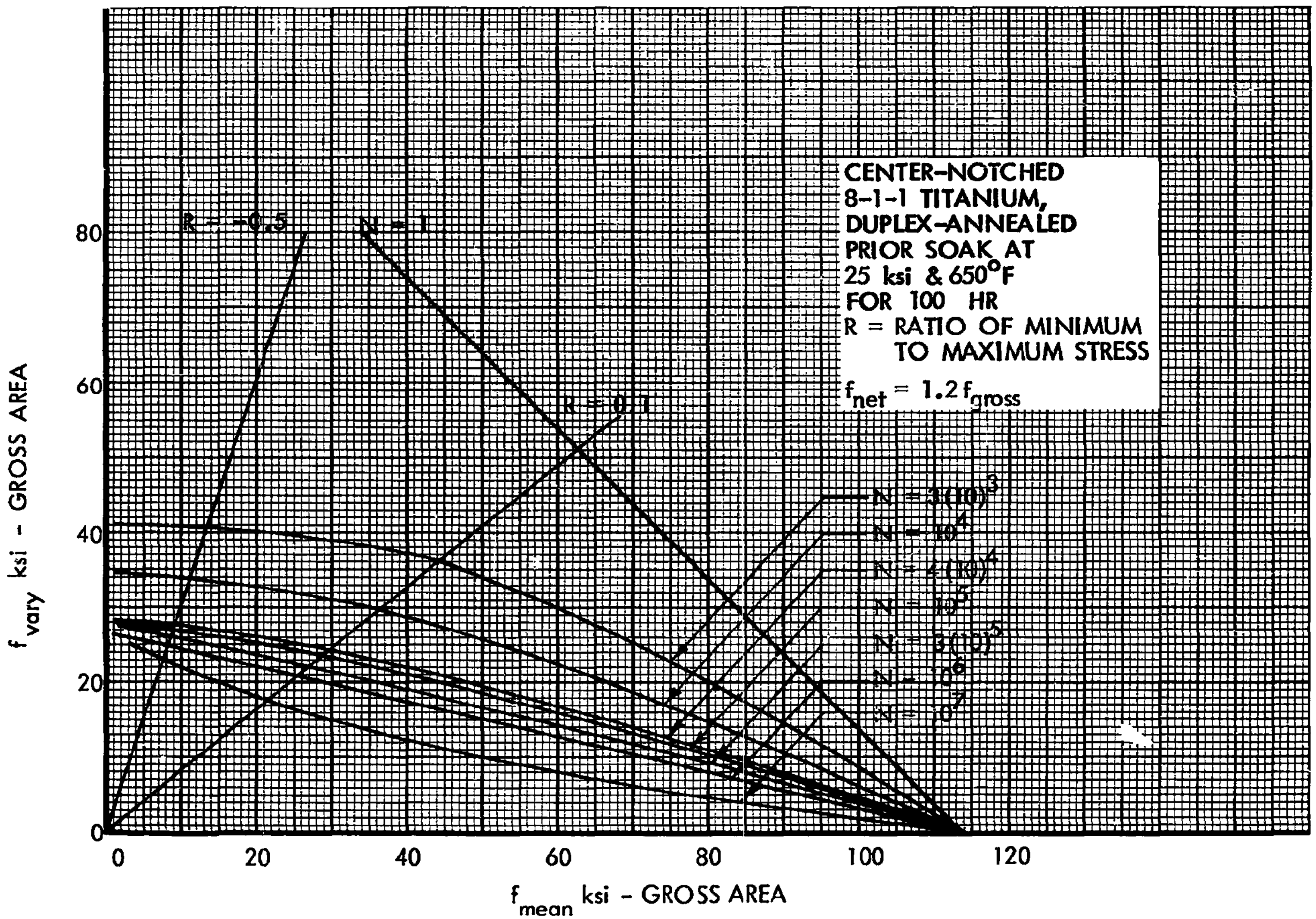


Figure 250. S-N Diagram at 650°F, Center-Notched 8-1-1 Titanium

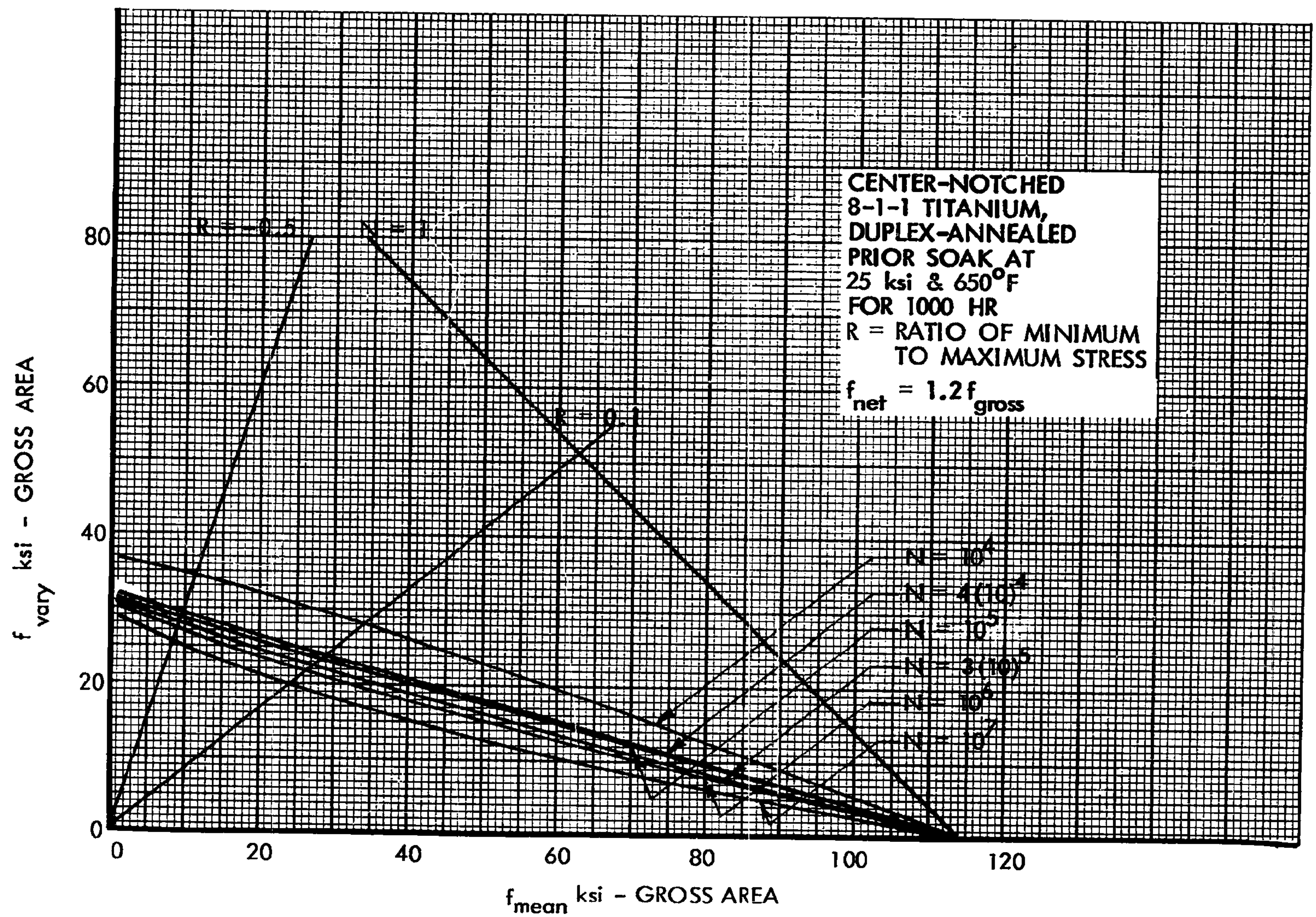


Figure 25I. S-N Diagram at 650°F, Center-Notched 8-1-1 Titanium

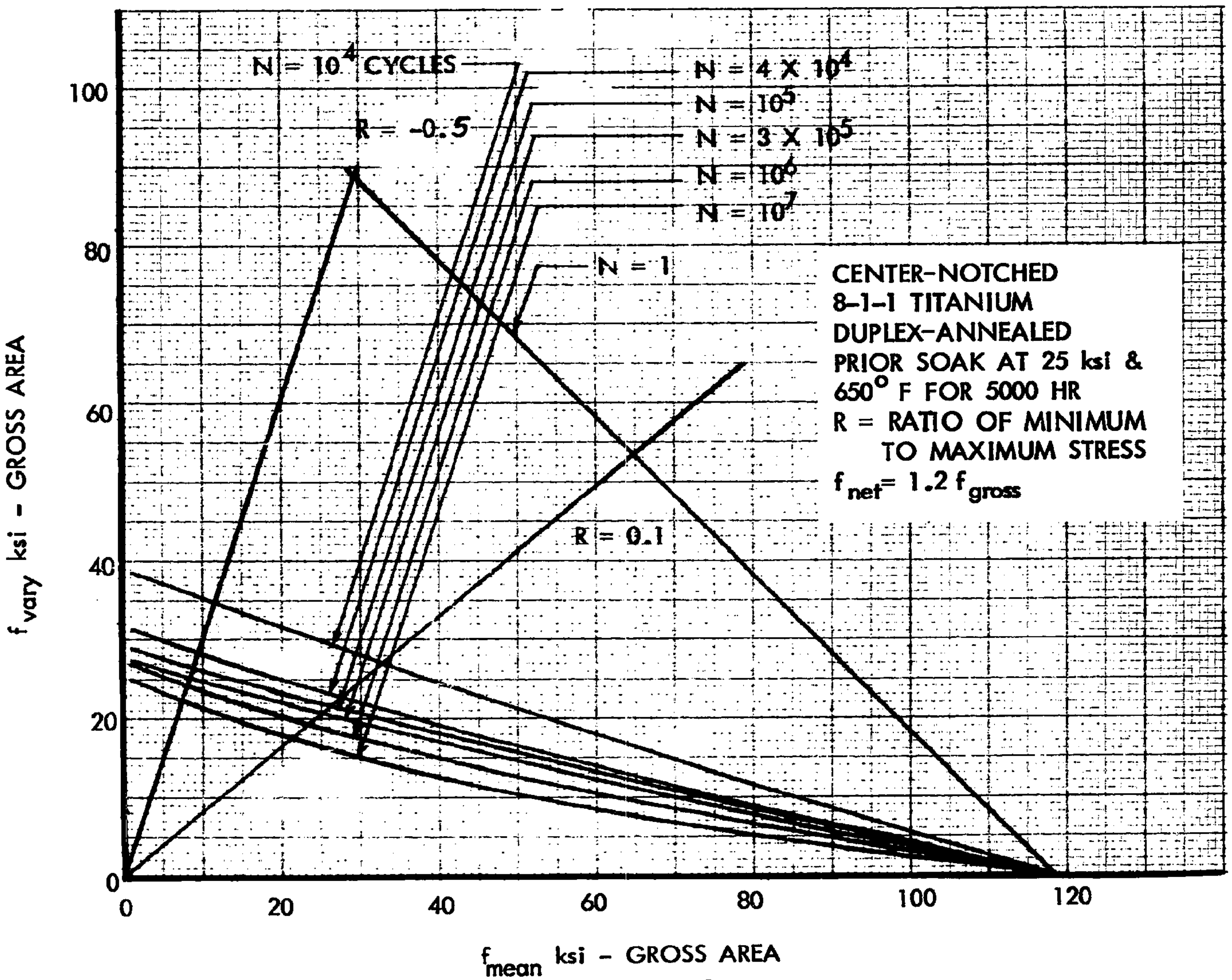


Figure 252. S-N Diagram at 650°F, Center-Notched 8-1-1 Titanium

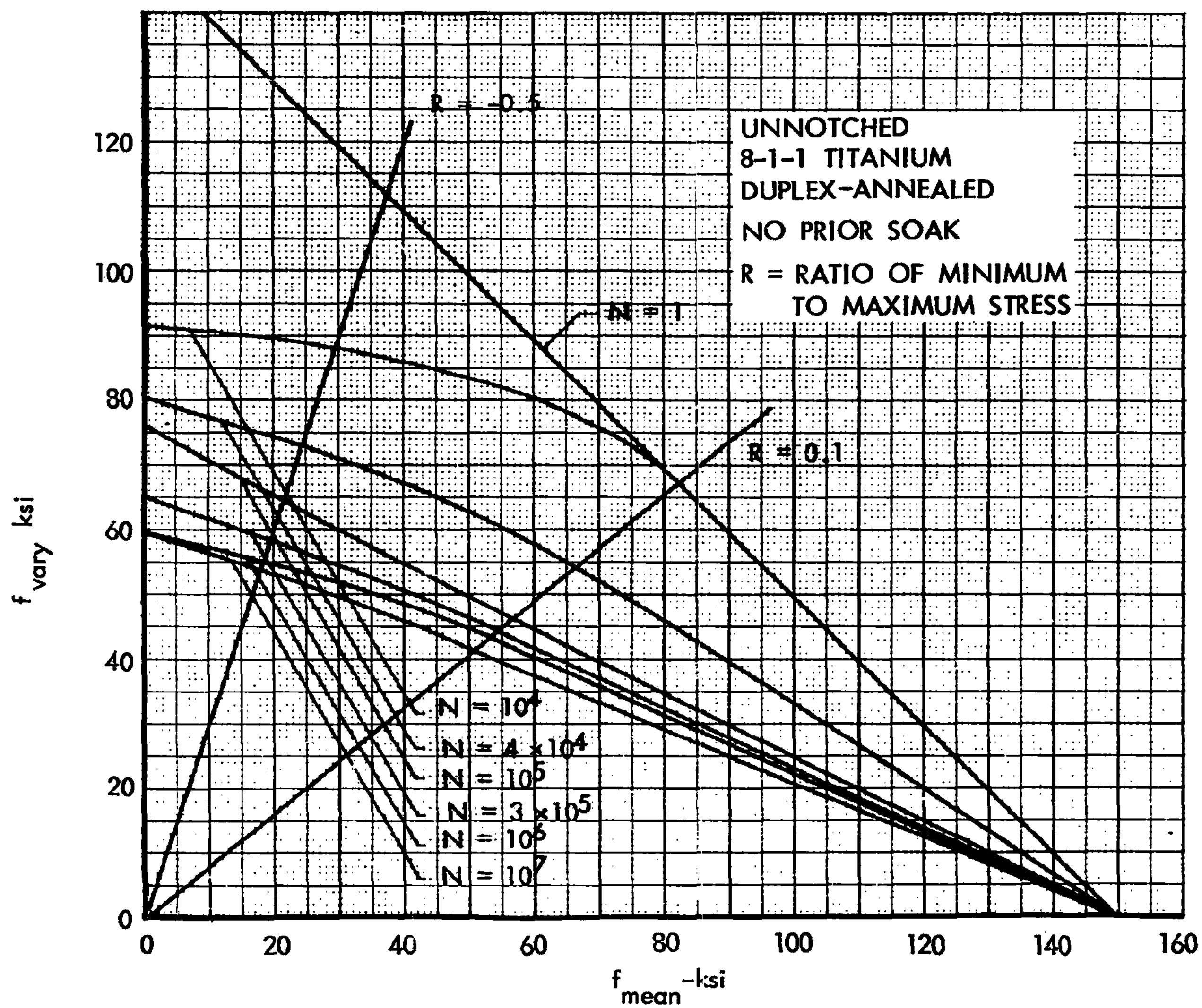


Figure 253. S-N Diagram at Room Temperature, Unnotched 8-1-1 Titanium

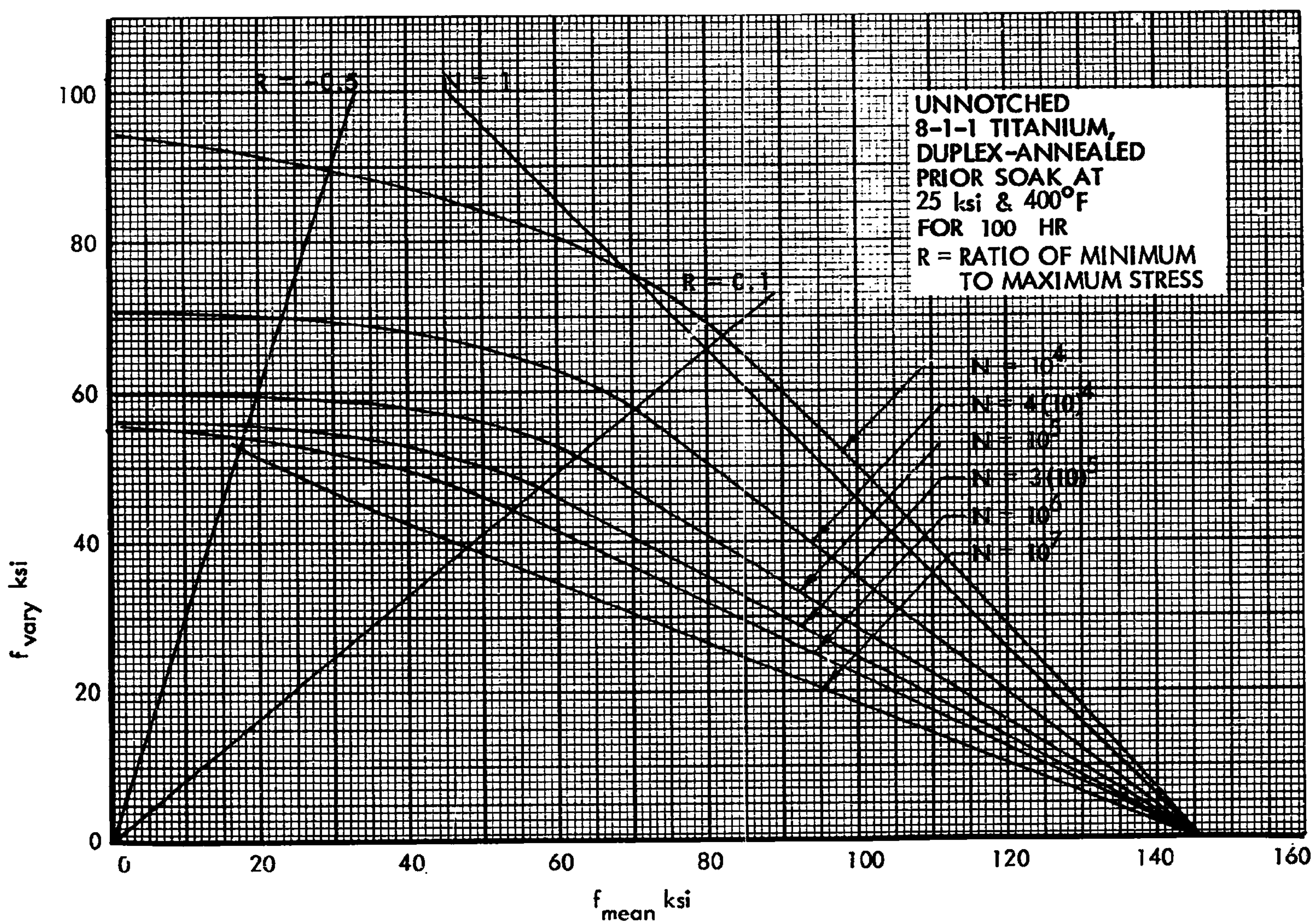


Figure 254. S-N Diagram at Room Temperature, Unnotched 8-1-1 Titanium

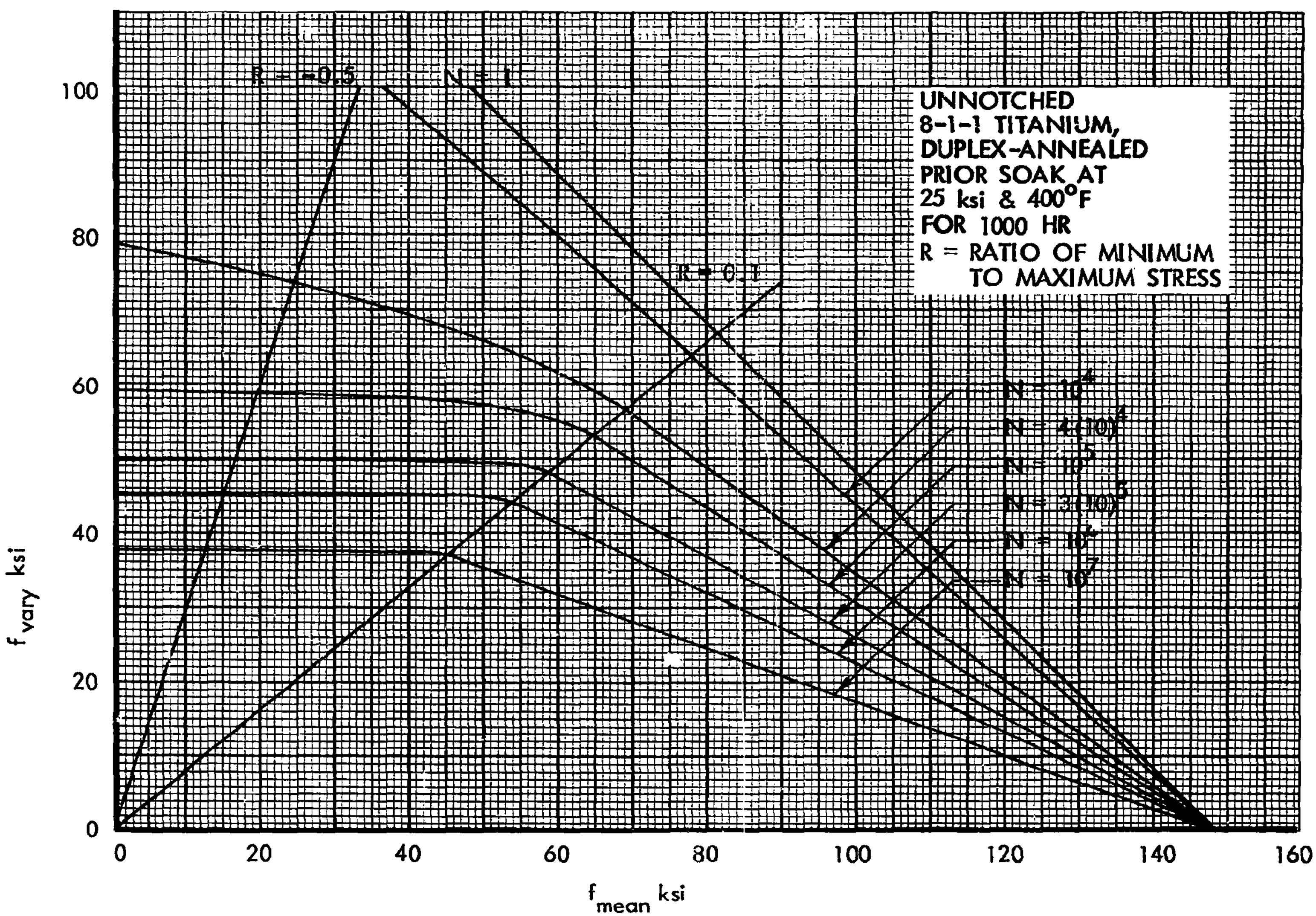


Figure 255. S-N Diagram at Room Temperature, Unnotched 8-1-1 Titanium

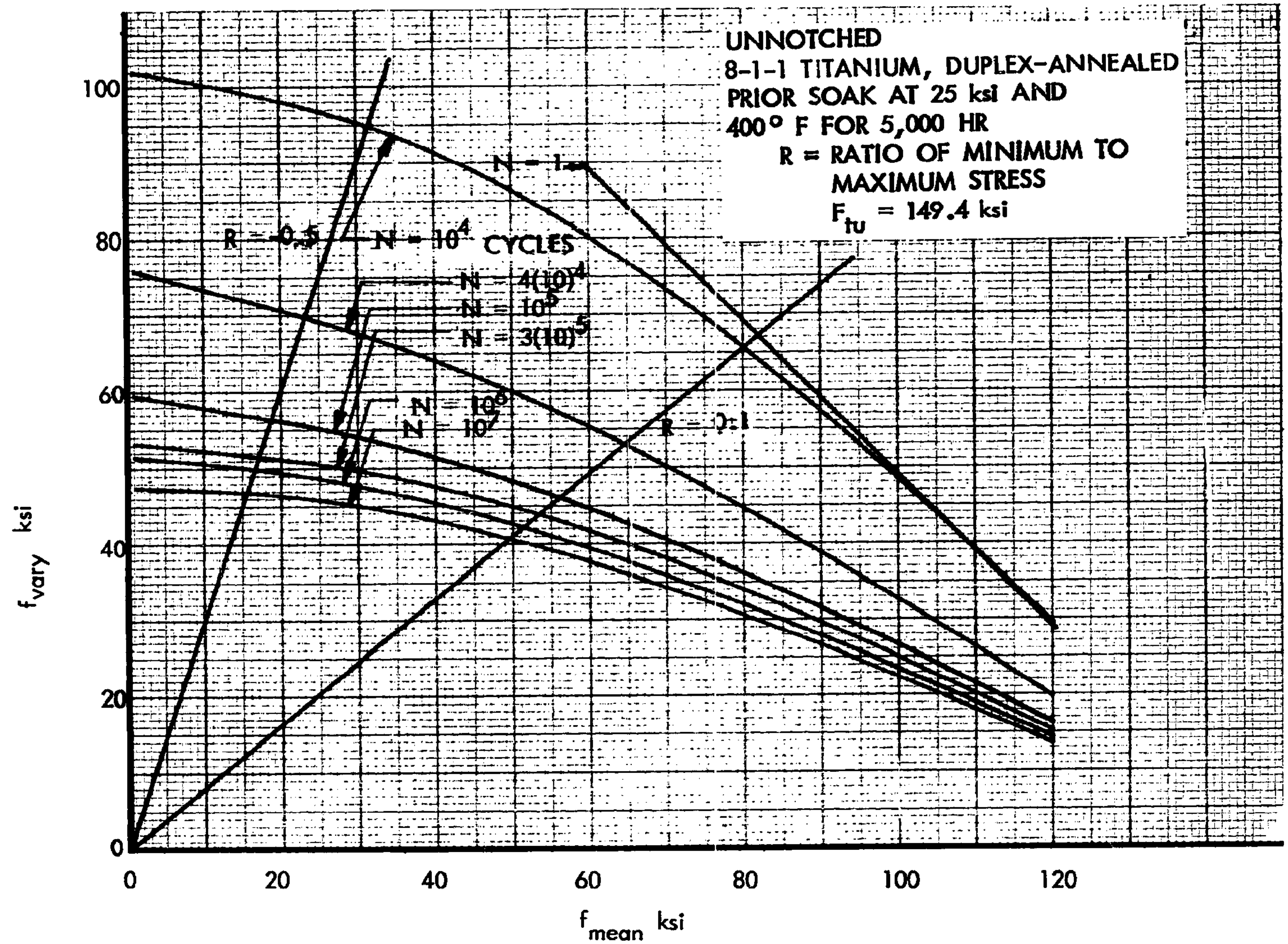


Figure 256. S-N Diagram at Room Temperature, Unnotched 8-1-1 Titanium

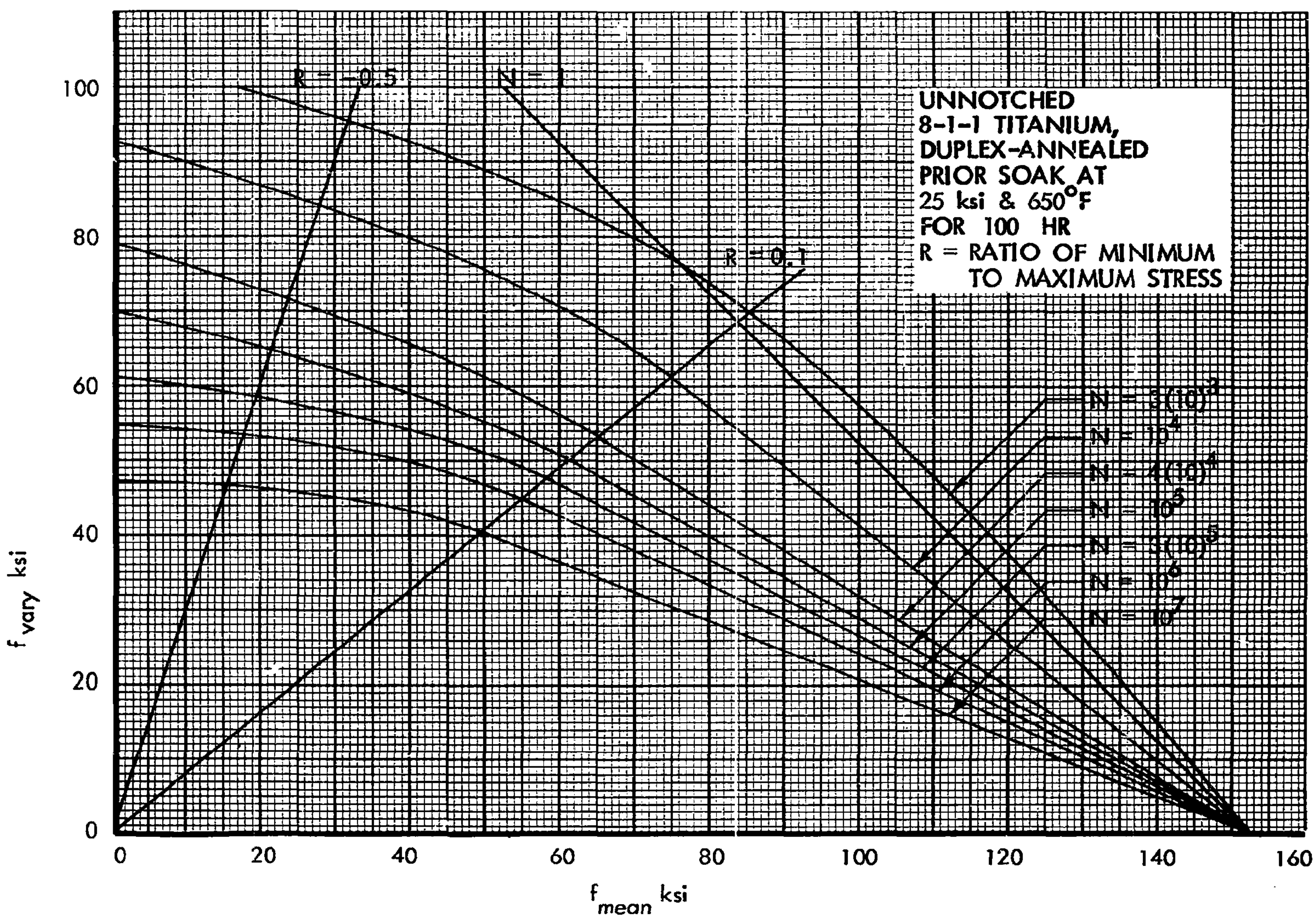


Figure 257. S-N Diagram at Room Temperature, Unnotched 8-1-1 Titanium

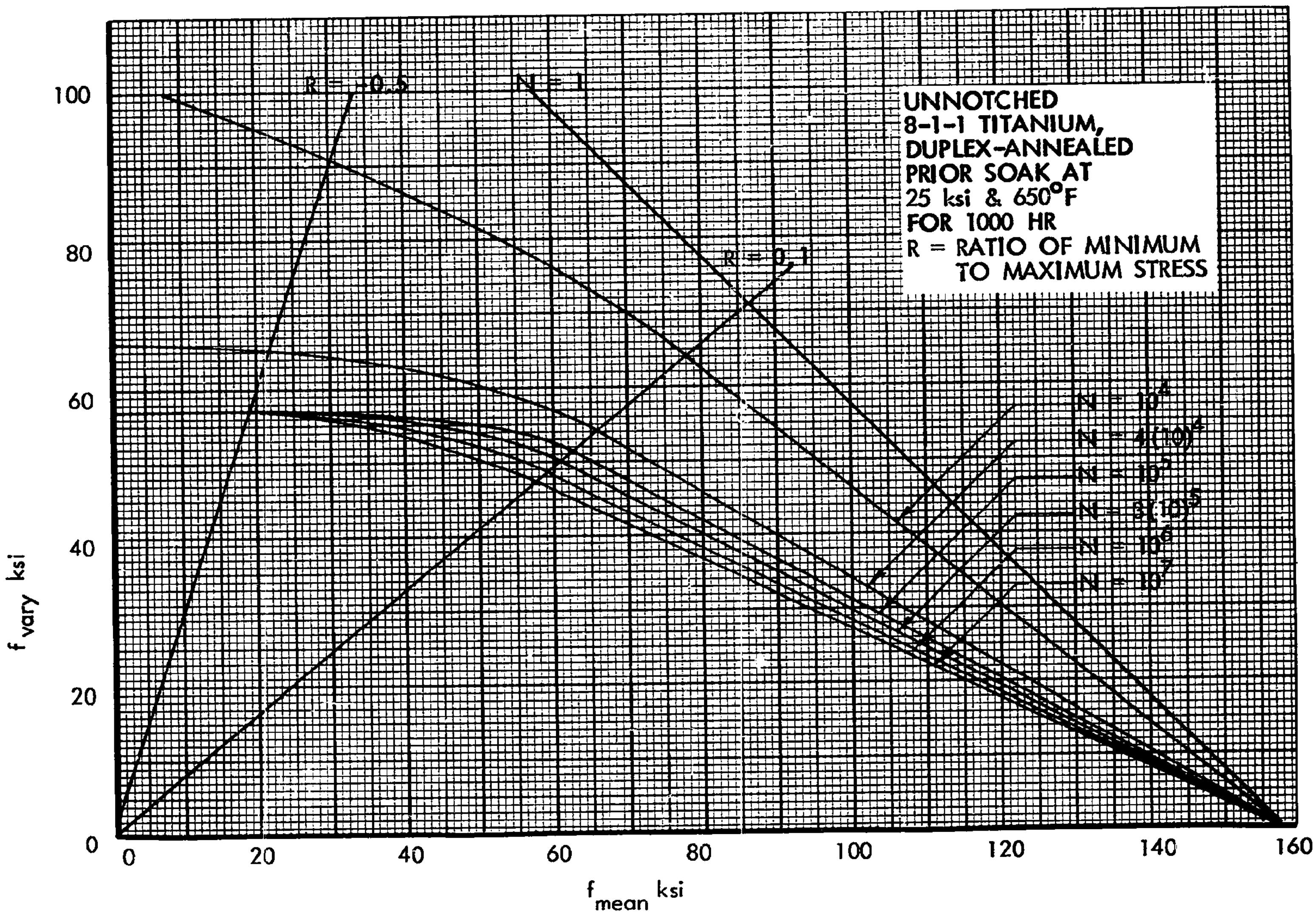


Figure 258. S-N Diagram at Room Temperature, Unnotched 8-1-1 Titanium

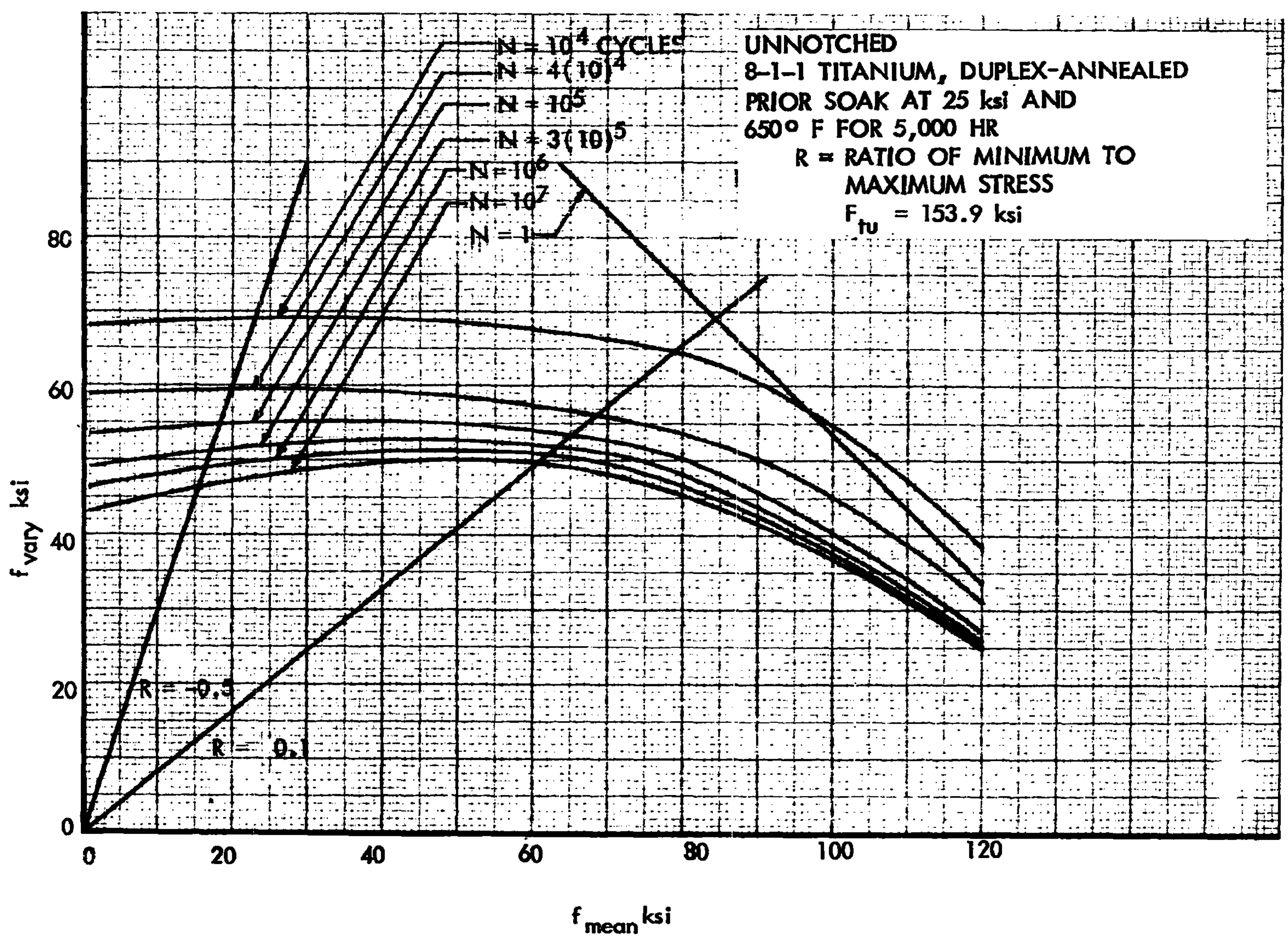


Figure 259. S-N Diagram at Room Temperature, Unnotched 8-1-1 Titanium

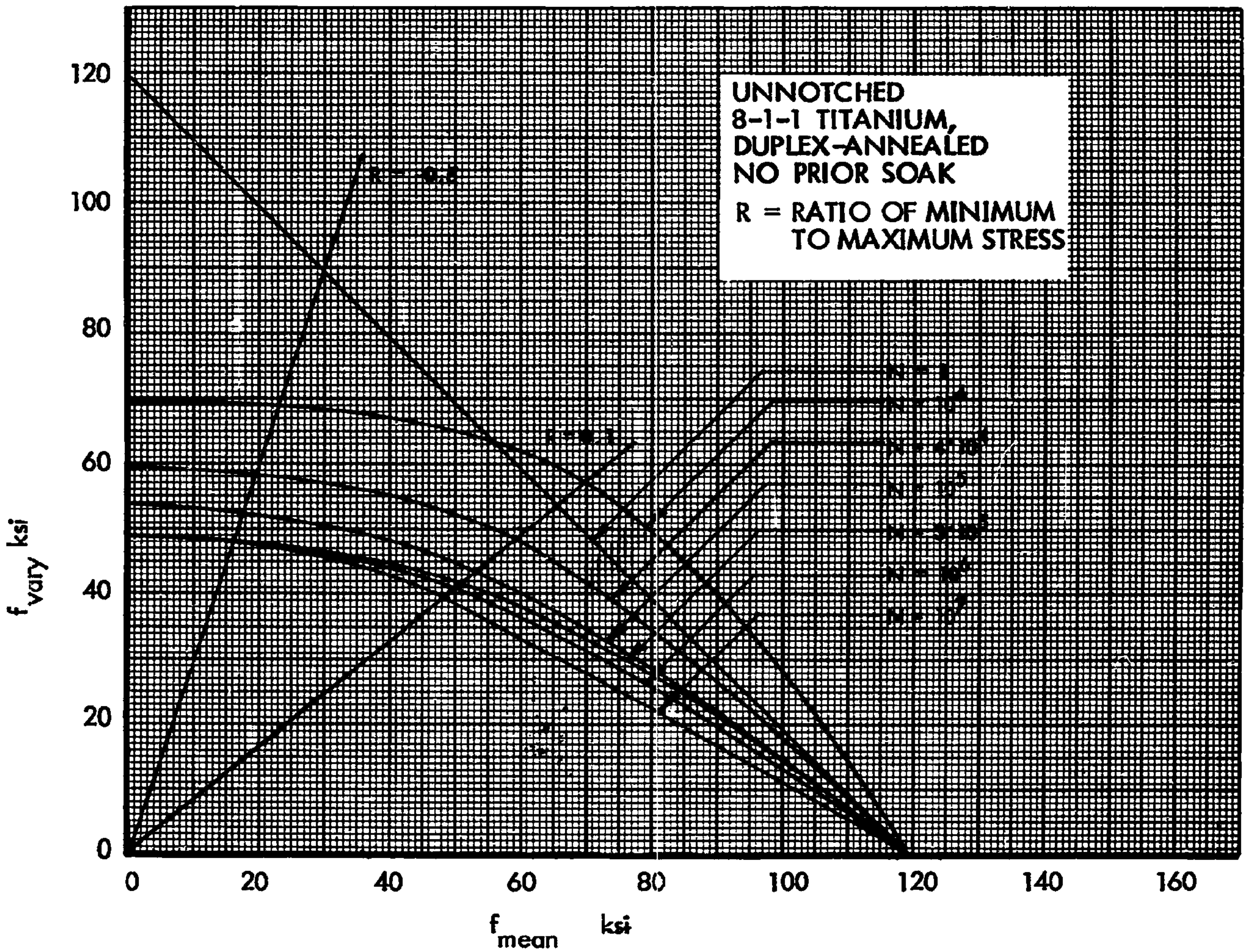


Figure 260. S-N Diagram at 400°F, Unnotched 8-1-1 Titanium

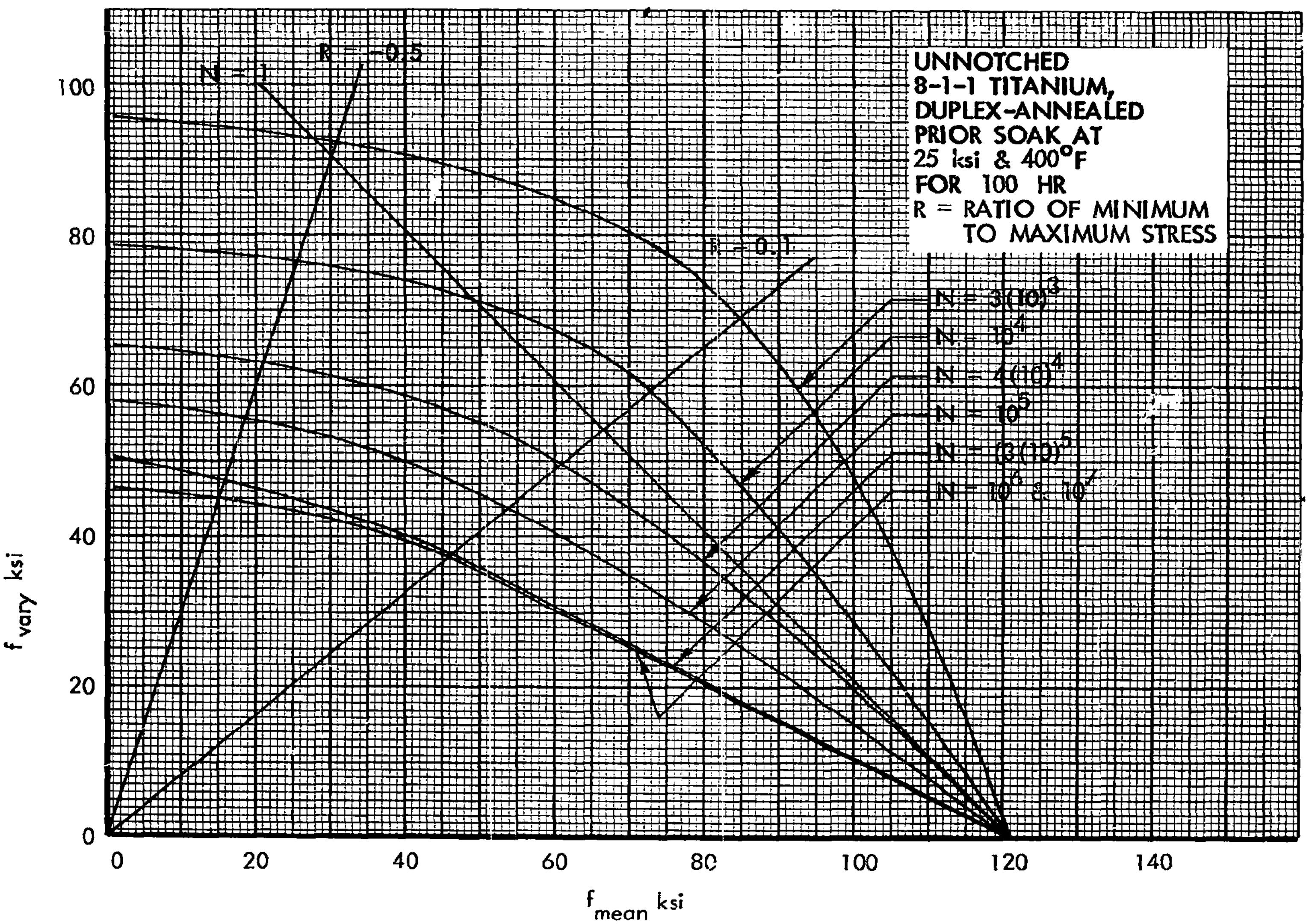


Figure 261. S-N Diagram at 400°F, Unnotched 8-1-1 Titanium

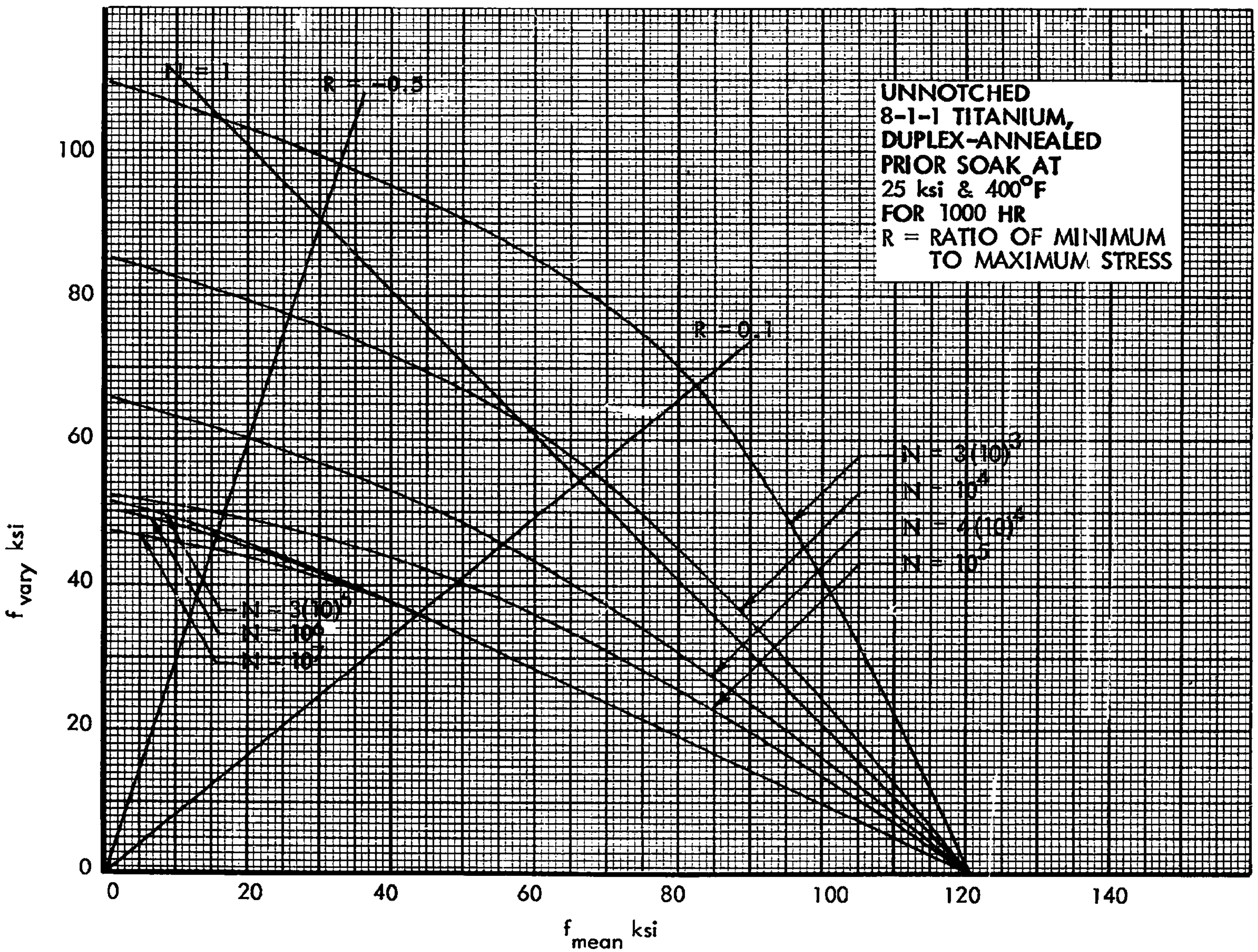


Figure 262. S-N Diagram at 400°F, Unnotched 8-1-1 Titanium

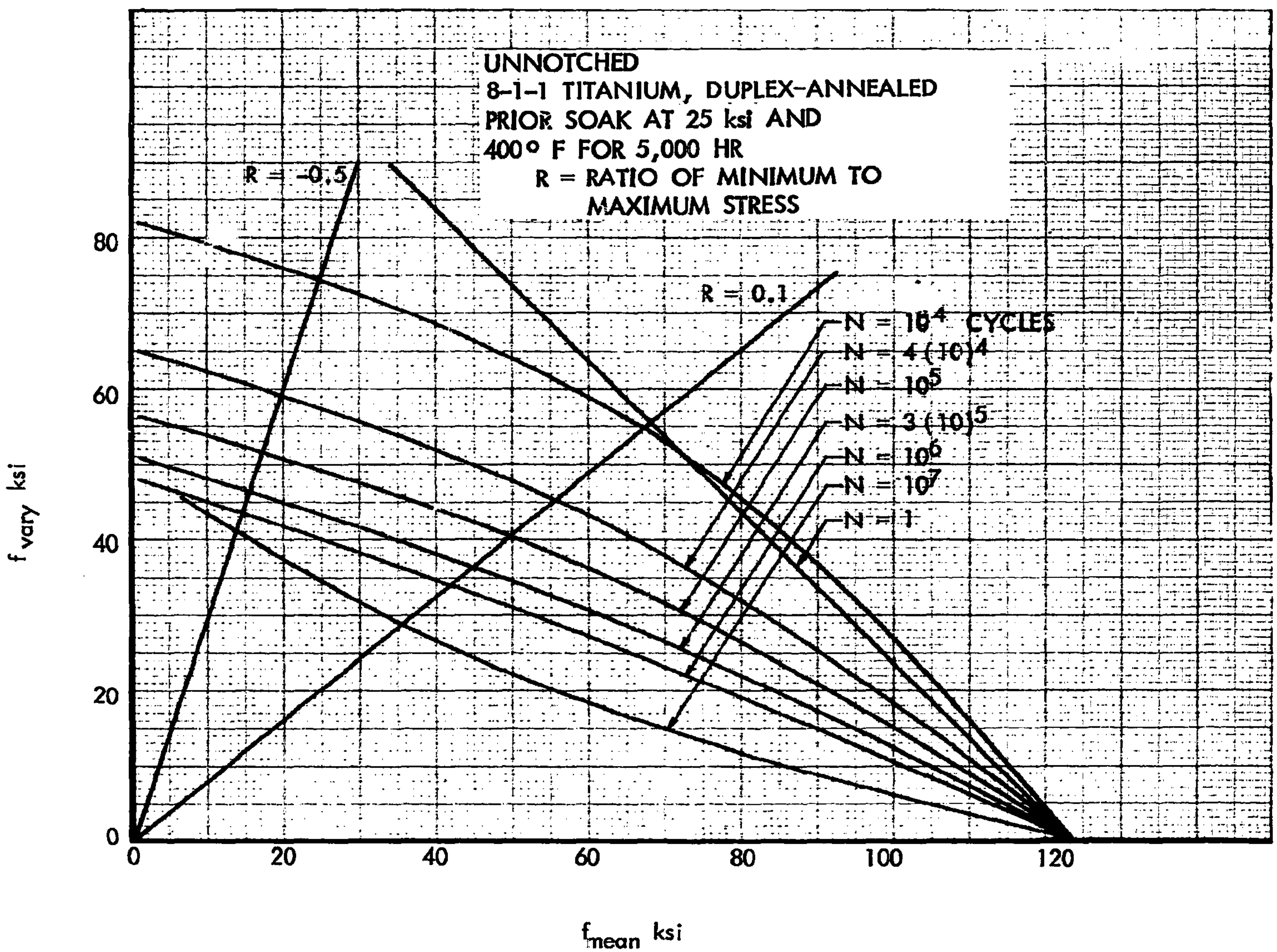


Figure 263. S-N Diagram at 400°F, Unnotched 8-1-1 Titanium

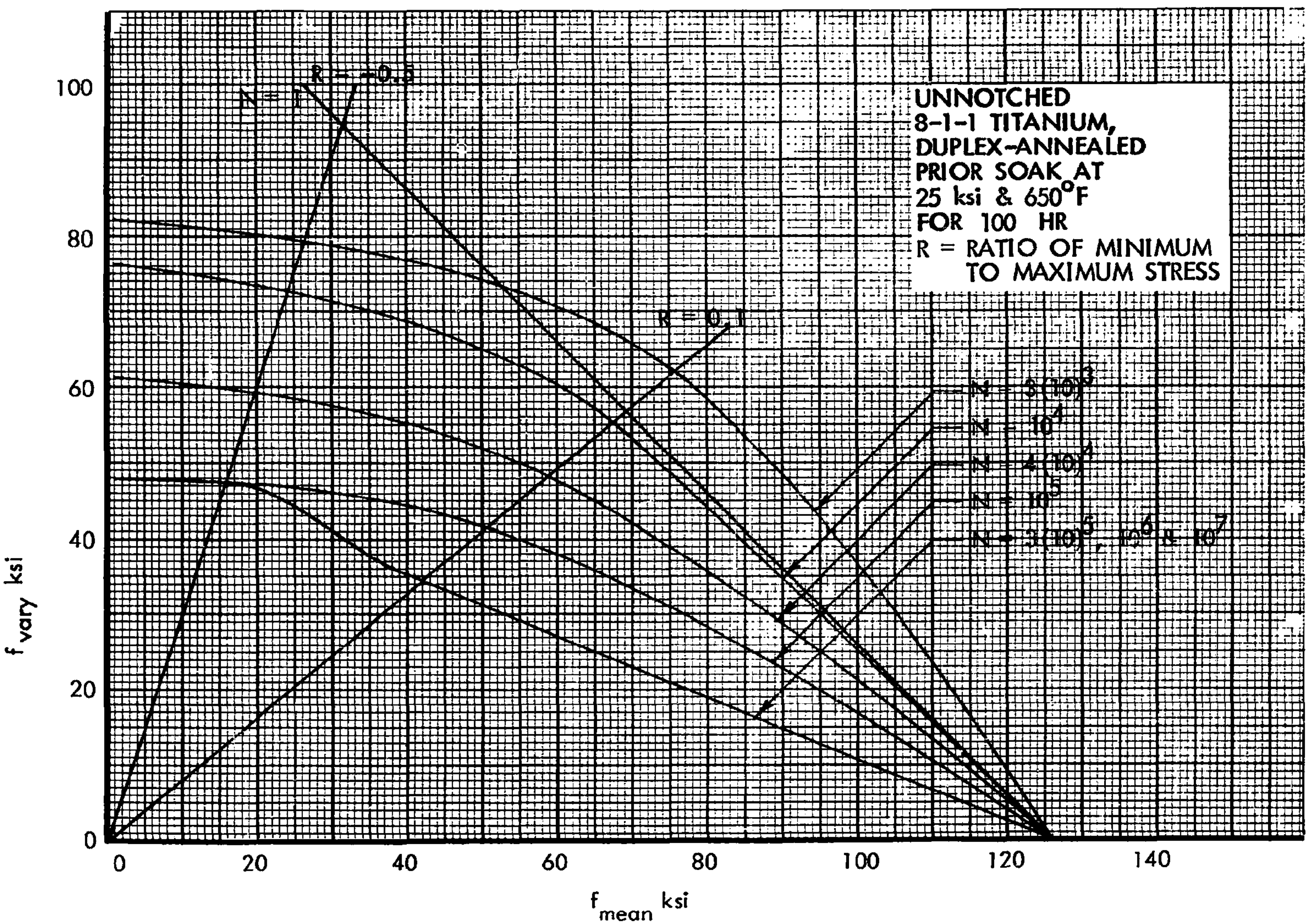


Figure 264. S-N Diagram at 400°F, Unnotched 8-1-1 Titanium

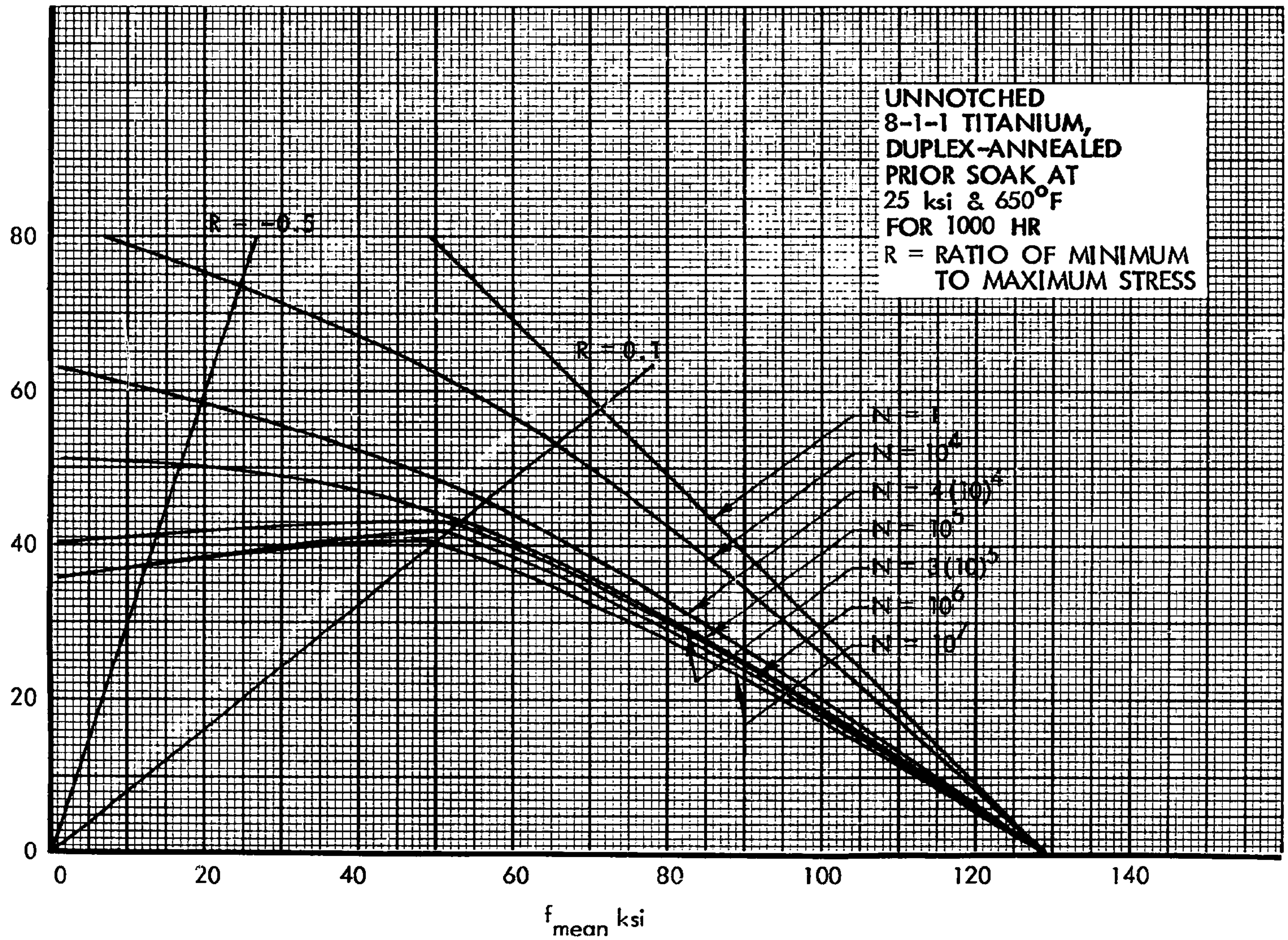


Figure 265. S-N Diagram at 400°F, Unnotched 8-1-1 Titanium

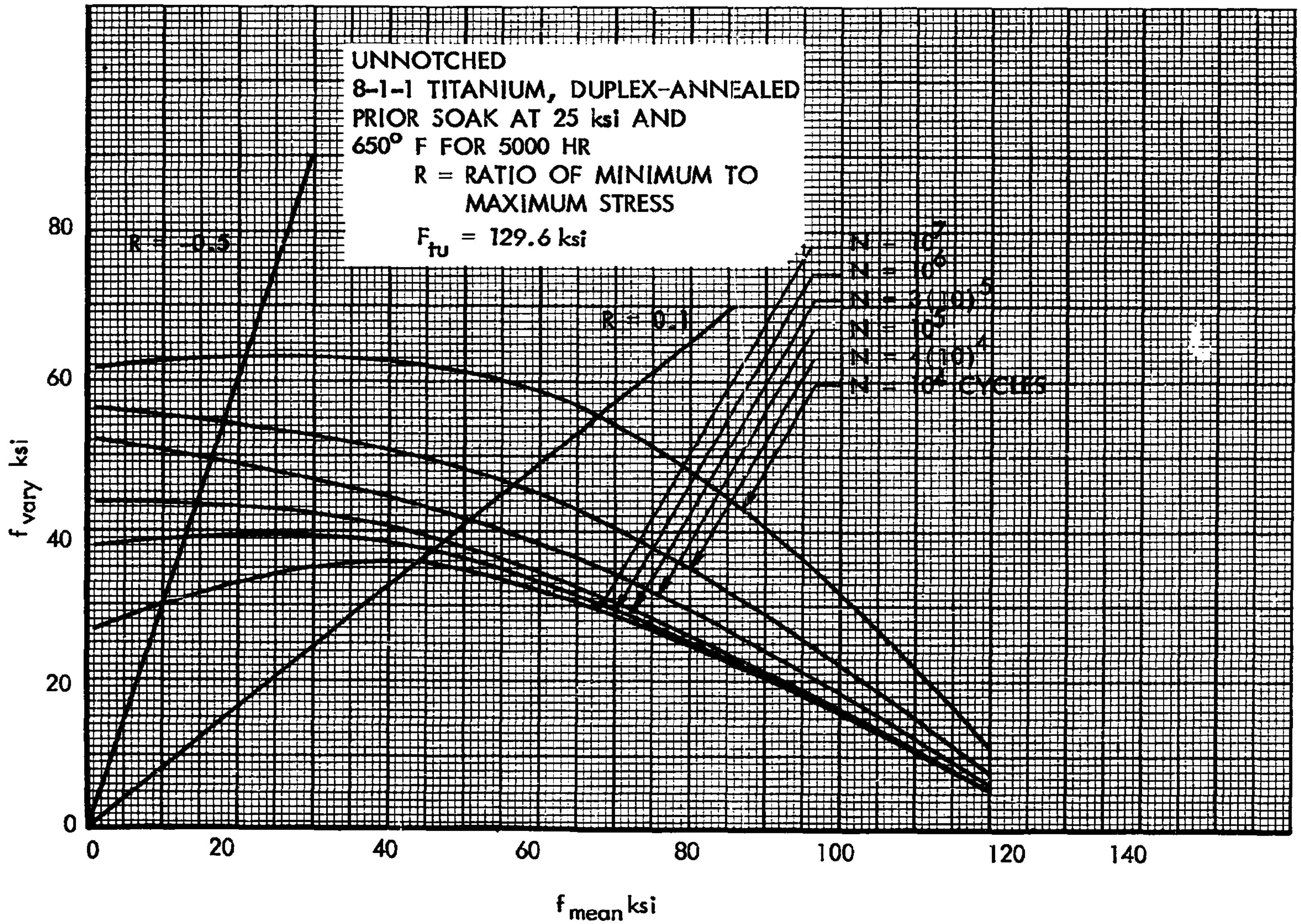


Figure 266. S-N Diagram at 400°F, Unnotched 8-1-1 Titanium

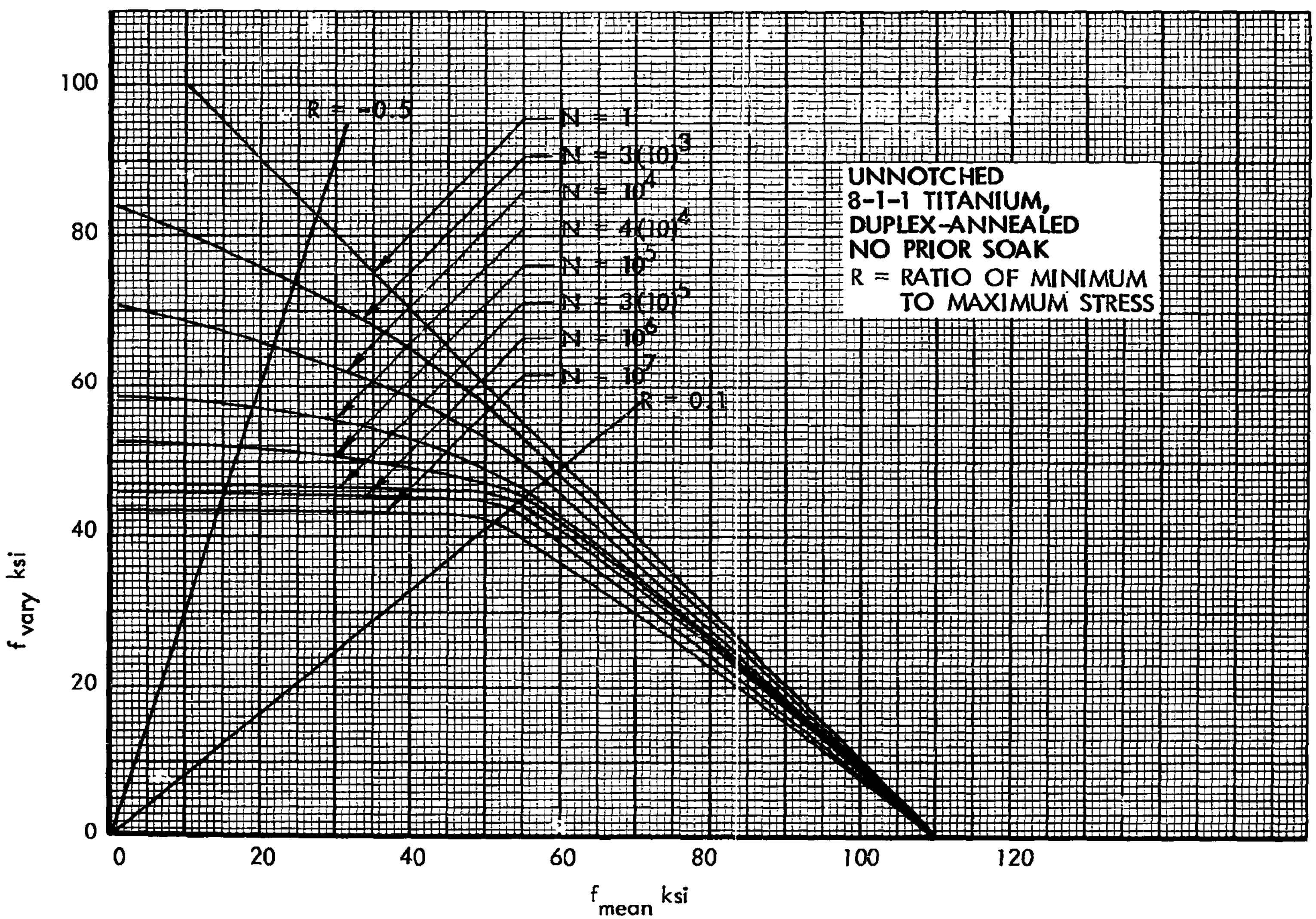


Figure 267. S-N Diagram at 650°F, Unnotched 8-1-1 Titanium

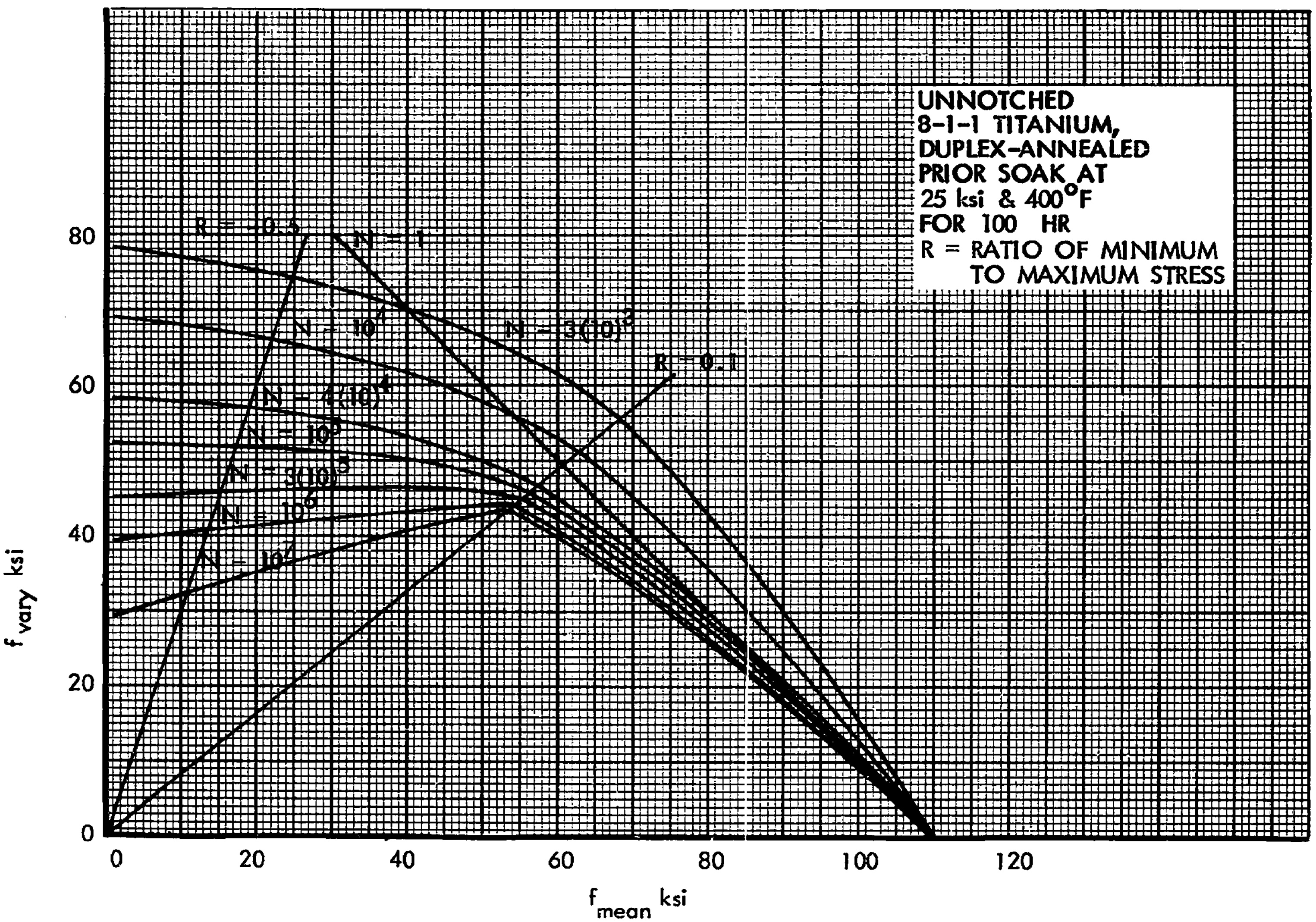


Figure 268. S-N Diagram at 650°F, Unnotched 8-1-1 Titanium

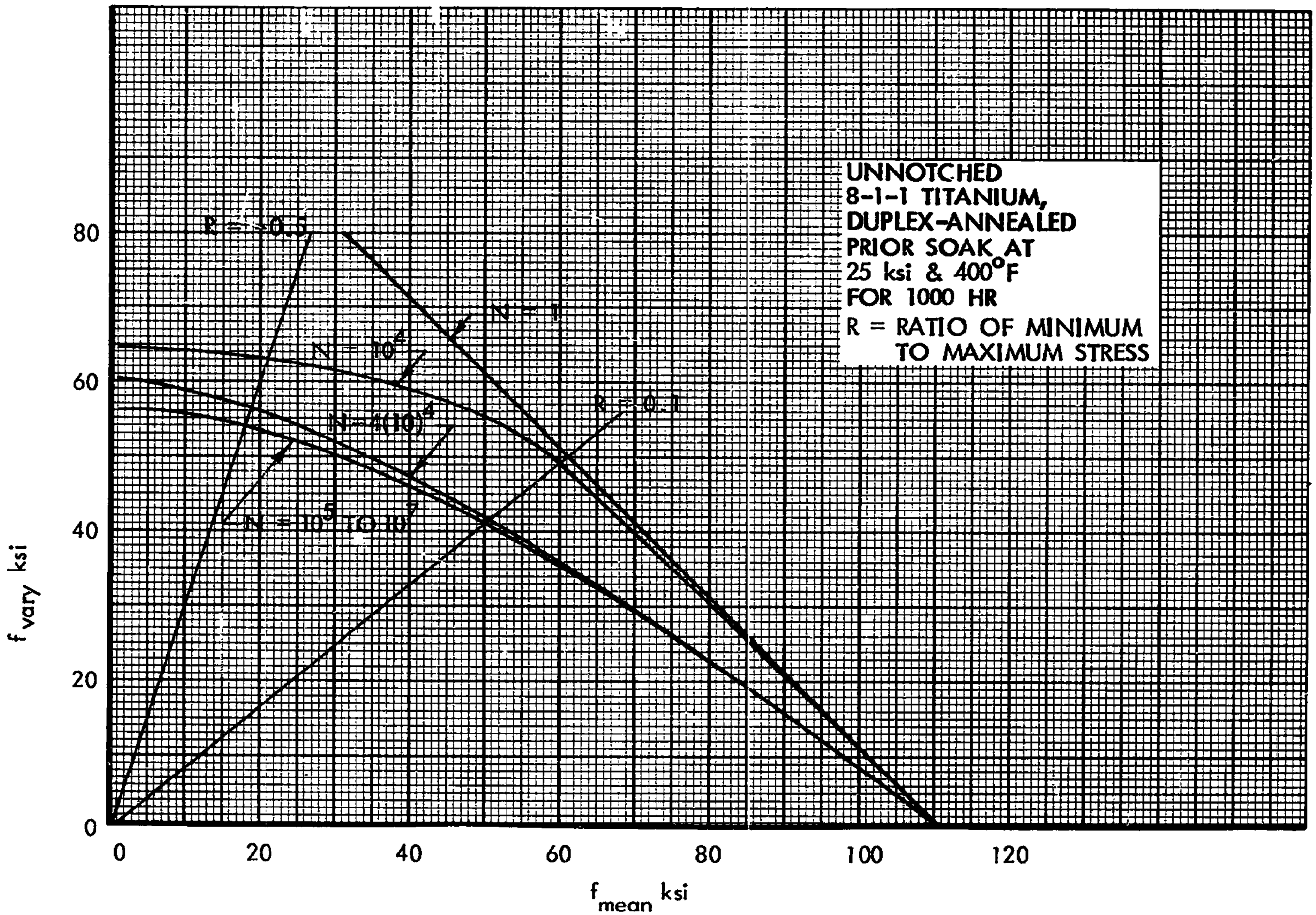


Figure 269. S-N Diagram at 650°F, Unnotched 8-1-1 Titanium

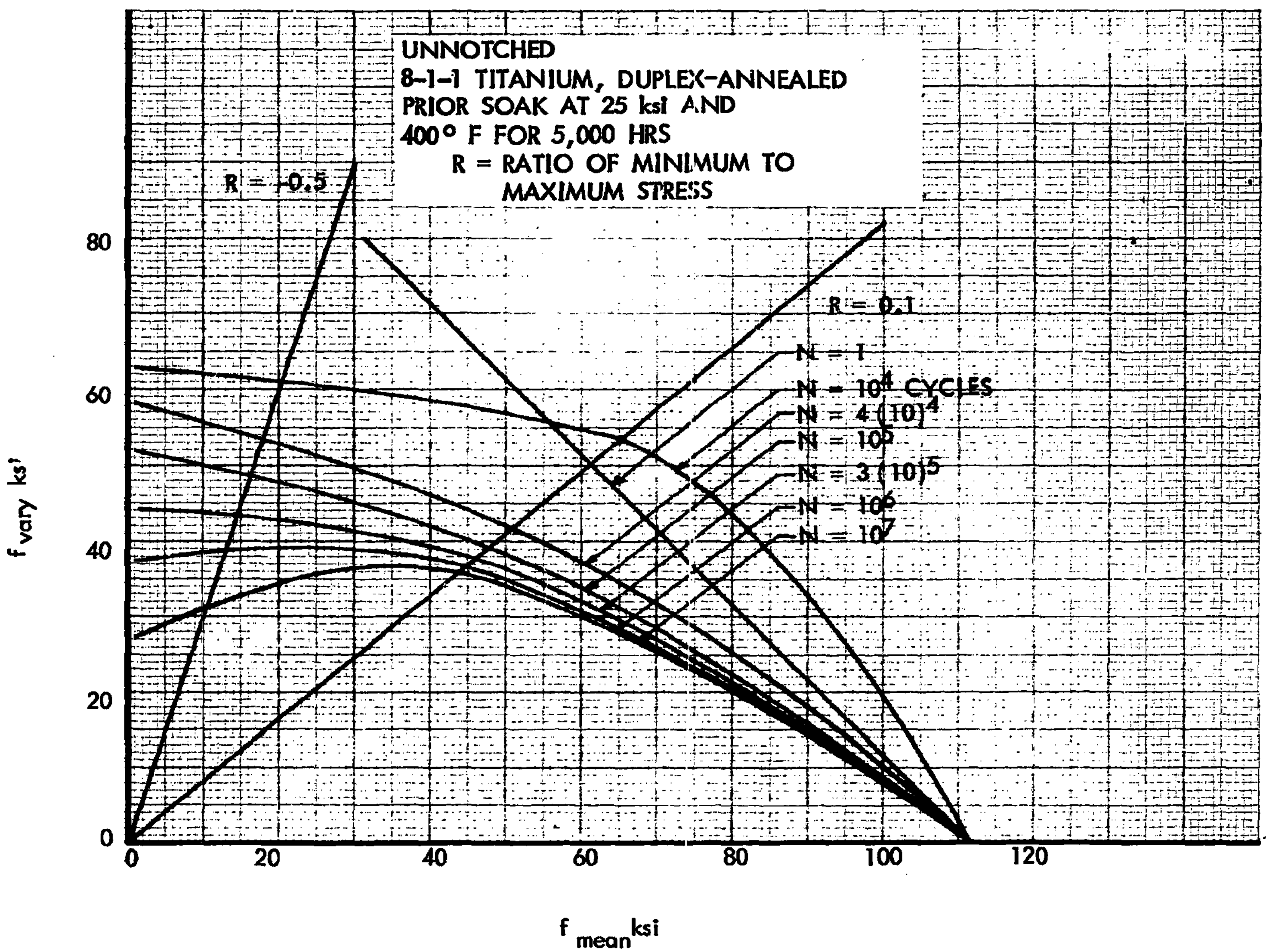


Figure 270. S-N Diagram at 650°F, Unnotched 8-1-1 Titanium

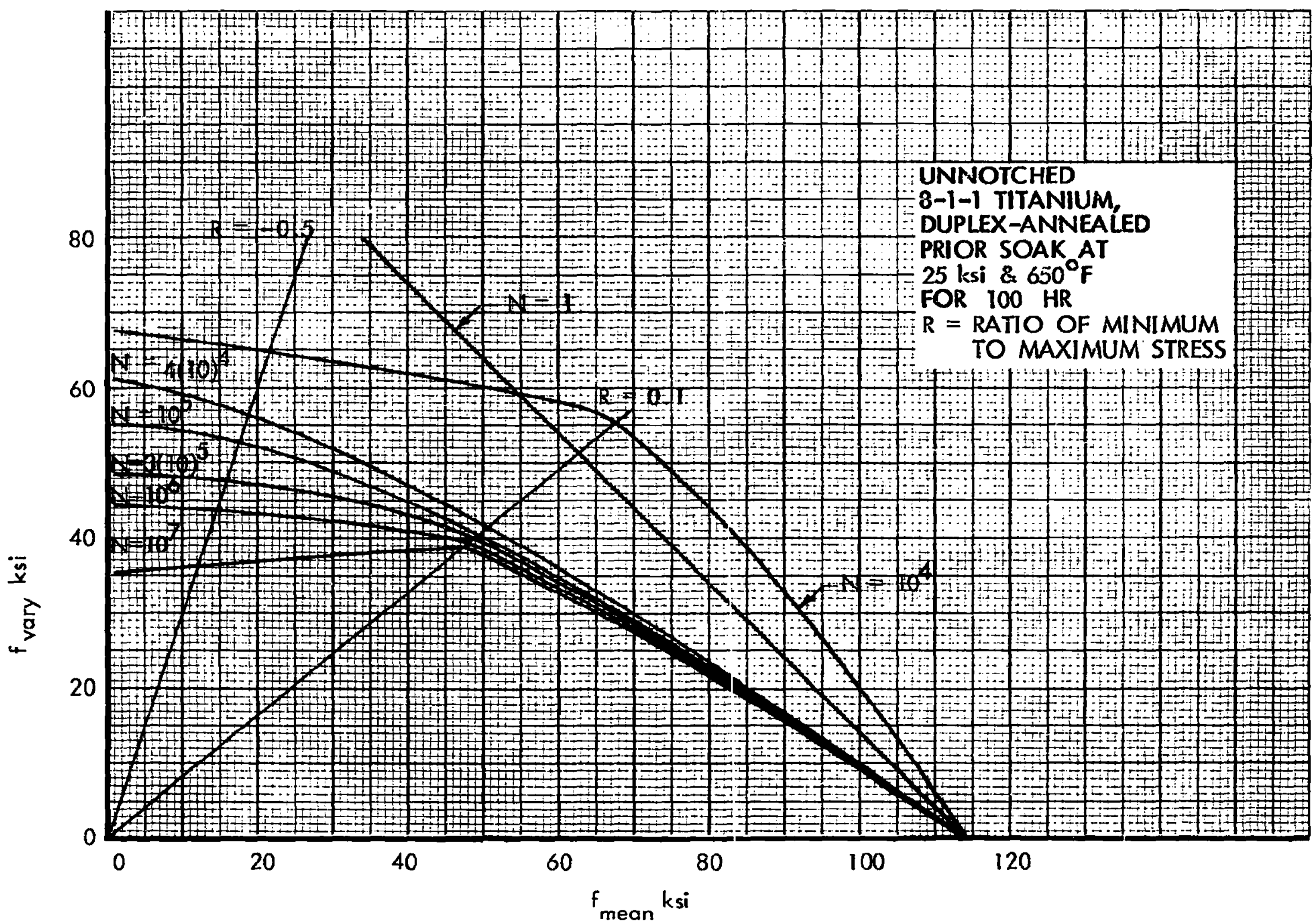


Figure 271. S-N Diagram at 650°F, Unnotched 8-1-1 Titanium

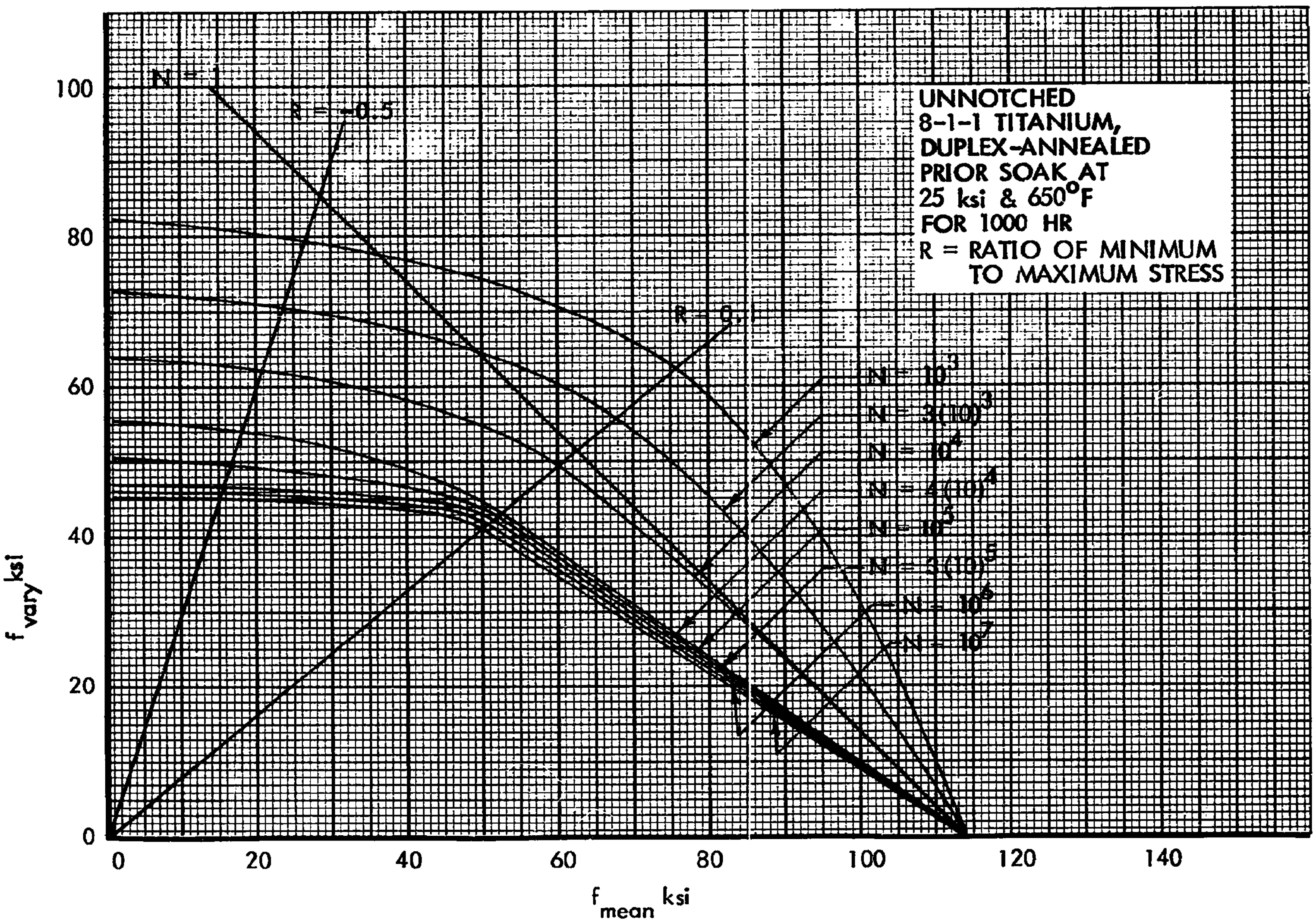


Figure 272. S-N Diagram at 650°F, Unnotched 8-1-1 Titanium

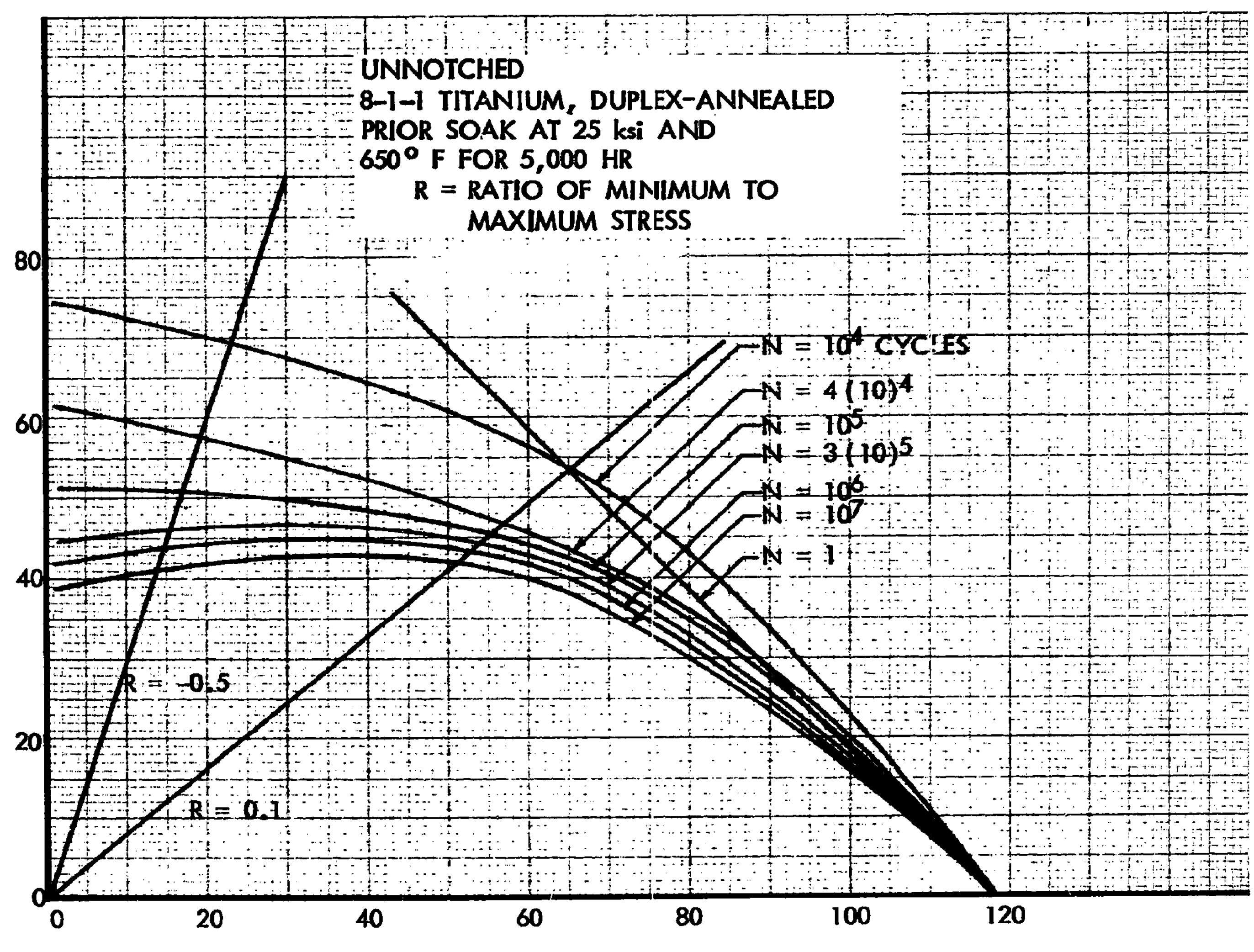


Figure 273. S-N Diagram at 650°F, Unnotched 8-1-1 Titanium

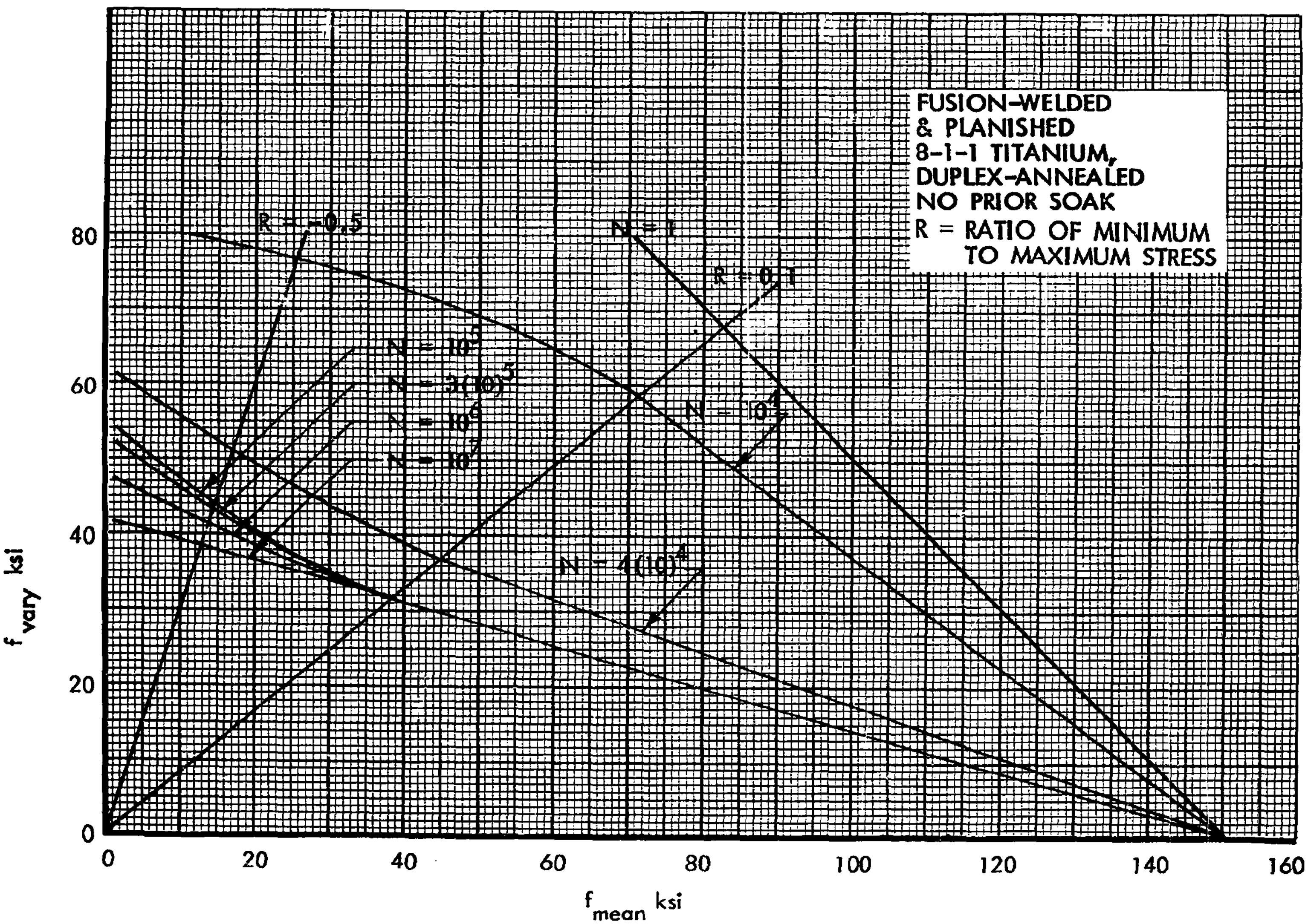


Figure 274. S-N Diagram at Room Temperature, Fusion-Welded 8-1-1 Titanium

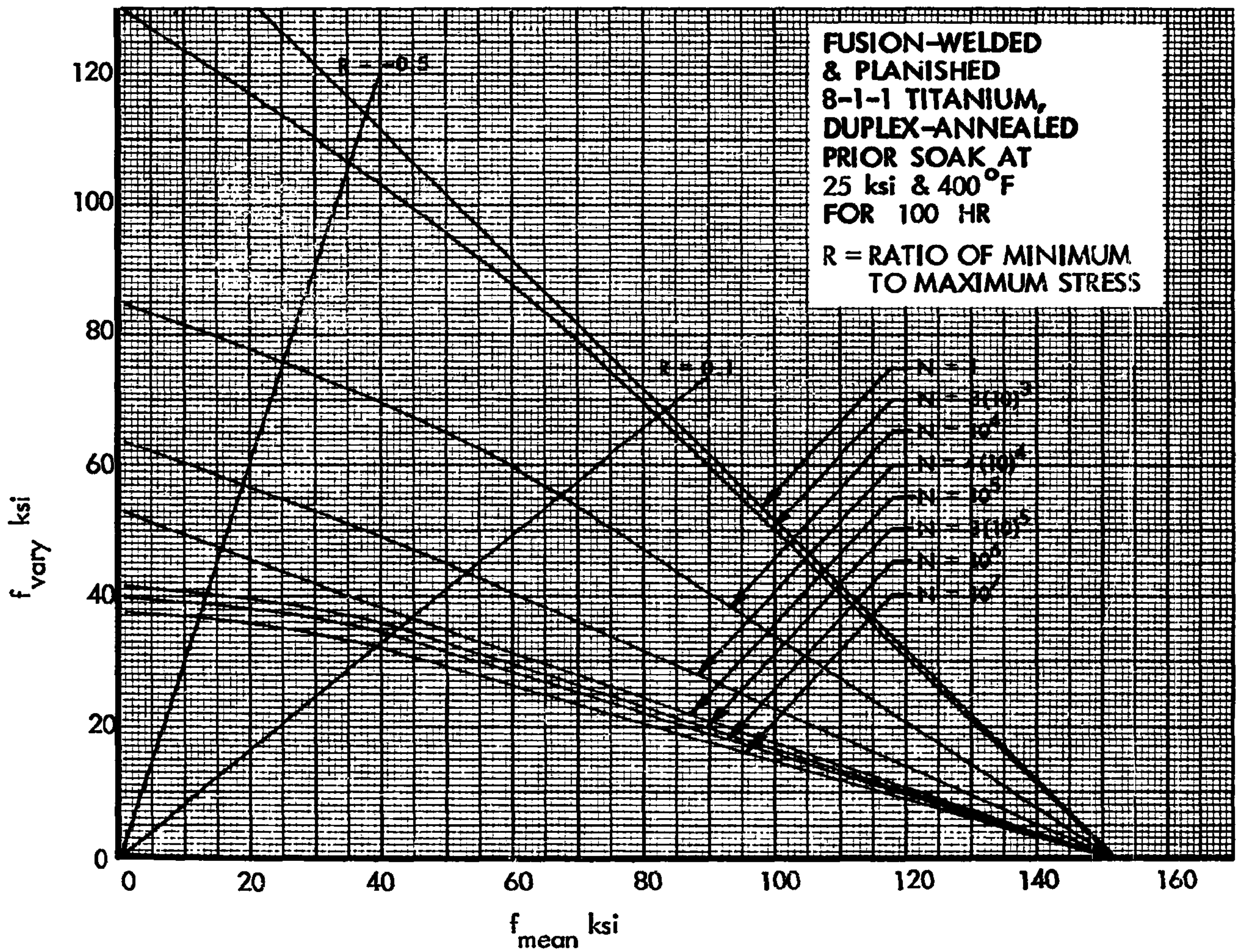


Figure 275. S-N Diagram at Room Temperature, Fusion-Welded 8-1-1 Titanium

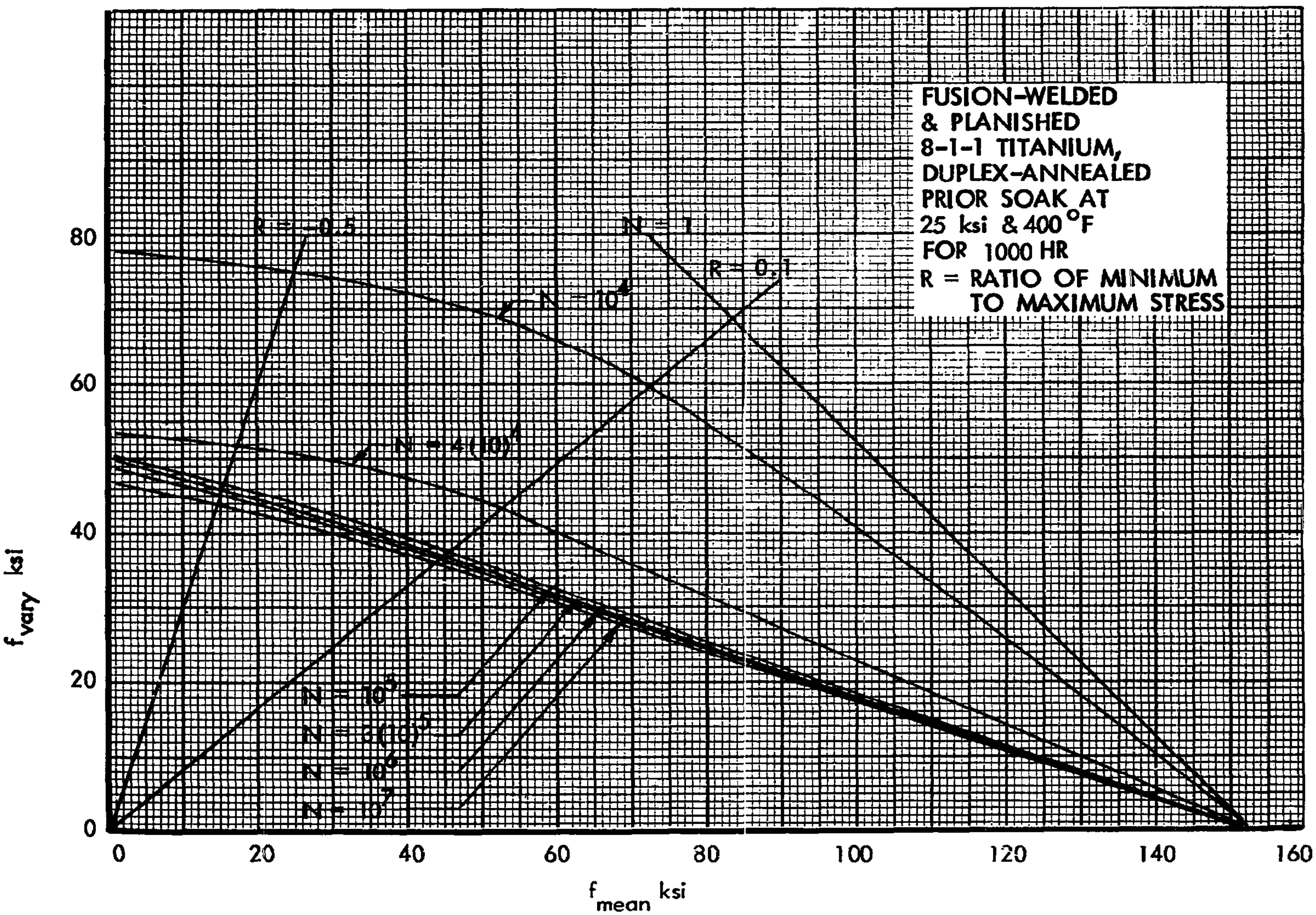


Figure 276. S-N Diagram at Room Temperature, Fusion-Welded 8-1-1 Titanium

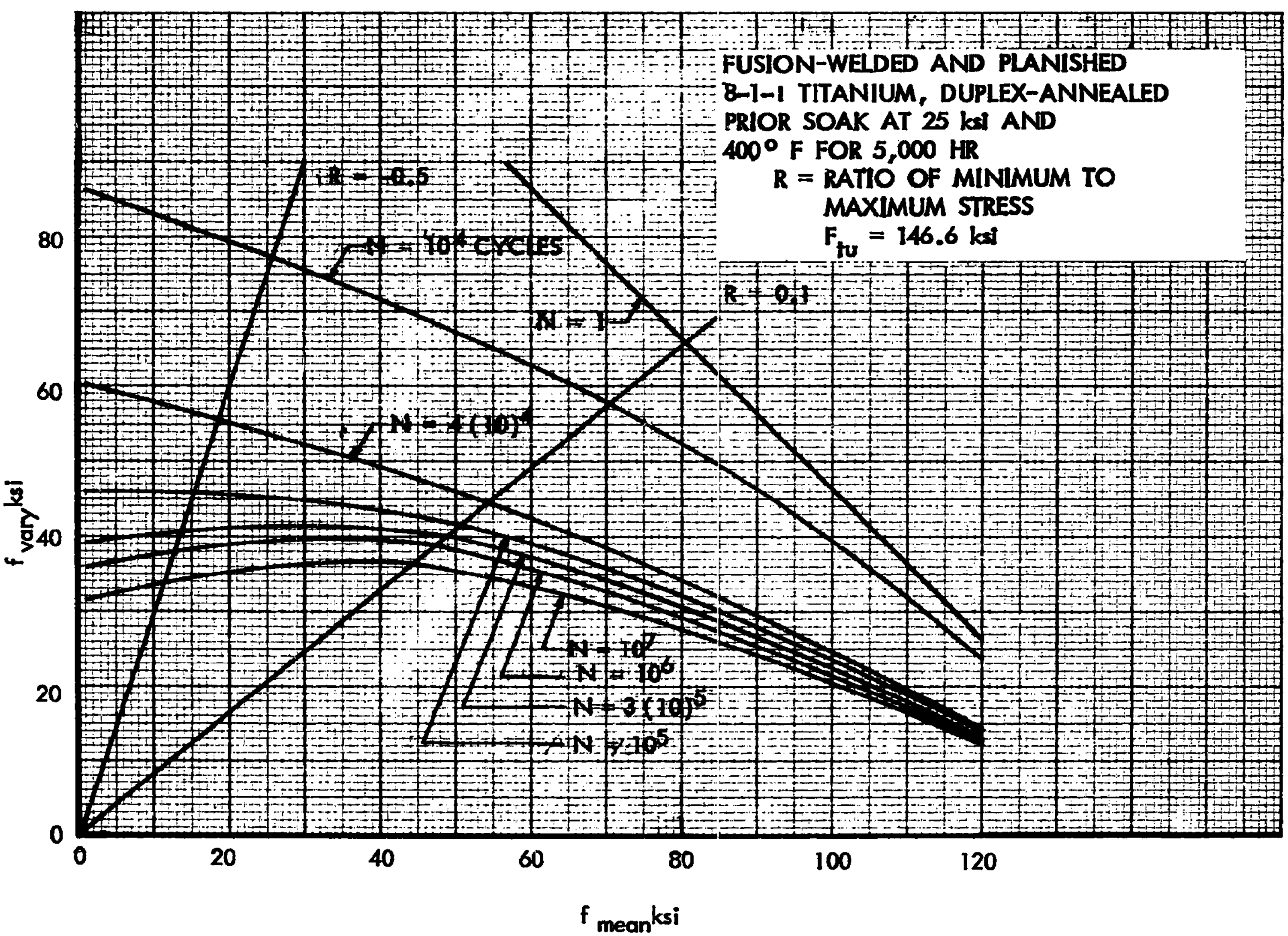


Figure 277. S-N Diagram at Room Temperature, Fusion-Welded 8-1-1 Titanium

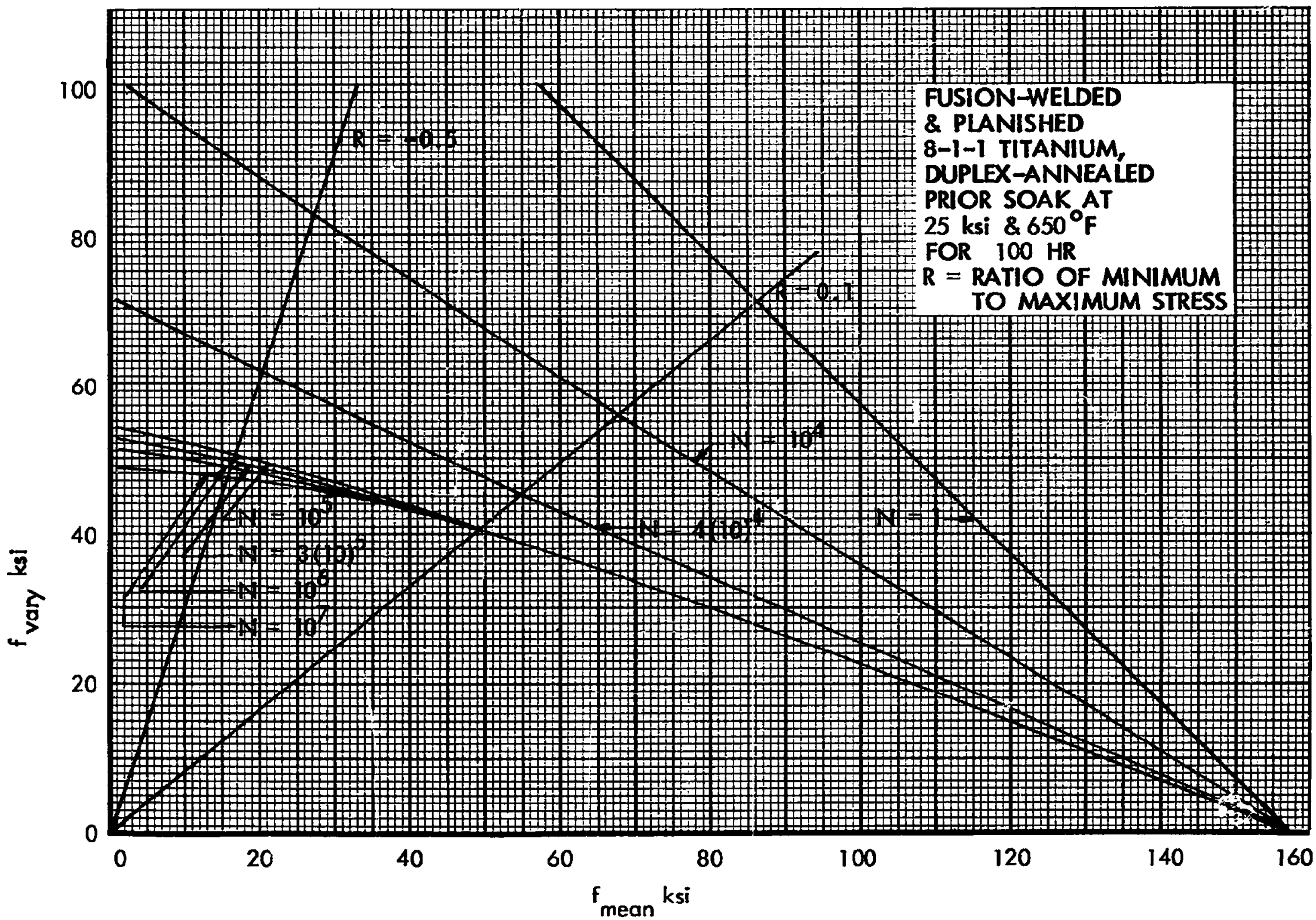


Figure 278. S-N Diagram at Room Temperature, Fusion-Welded 8-1-1 Titanium

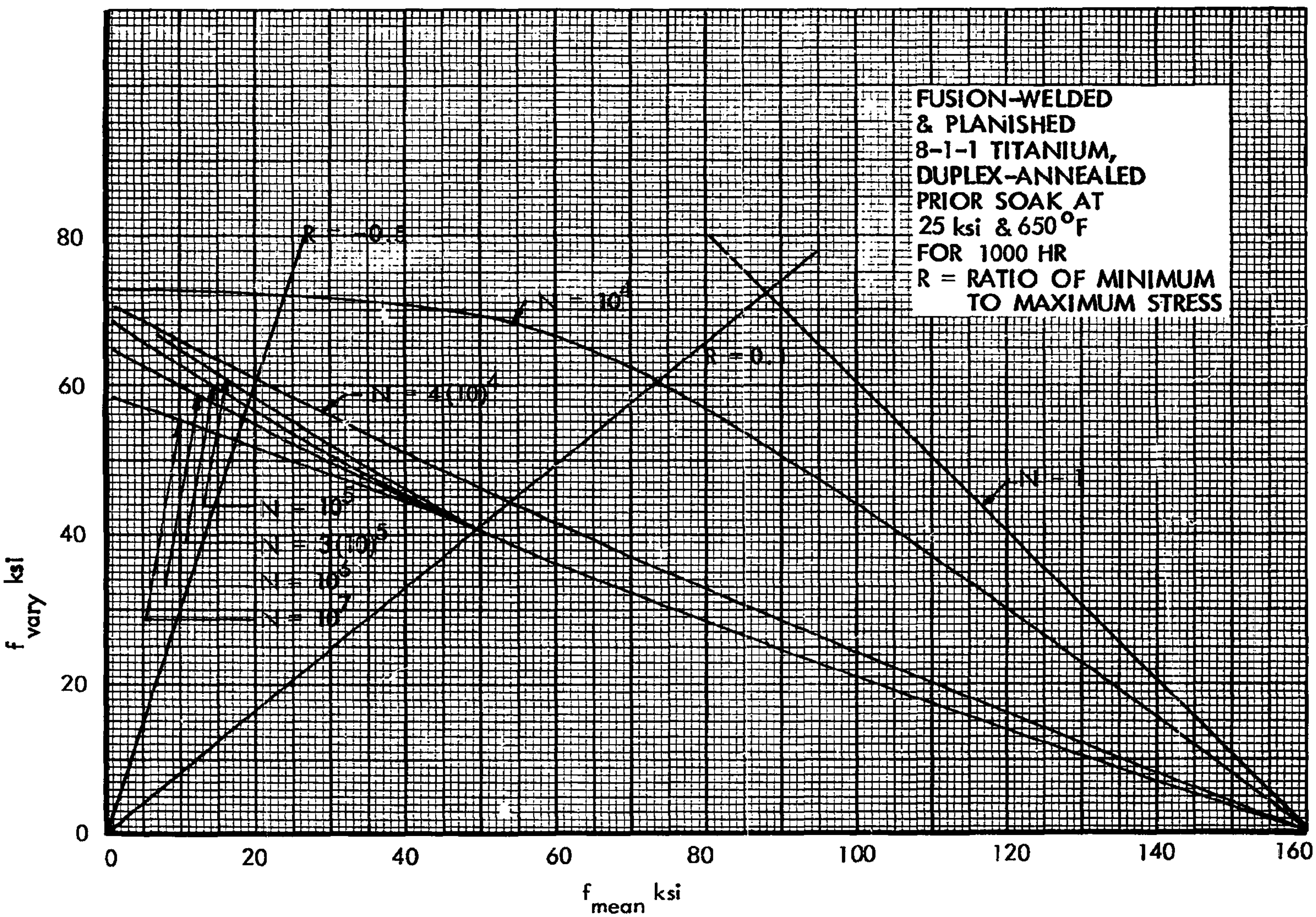


Figure 279. S-N Diagram at Room Temperature, Fusion-Welded 8-1-1 Titanium

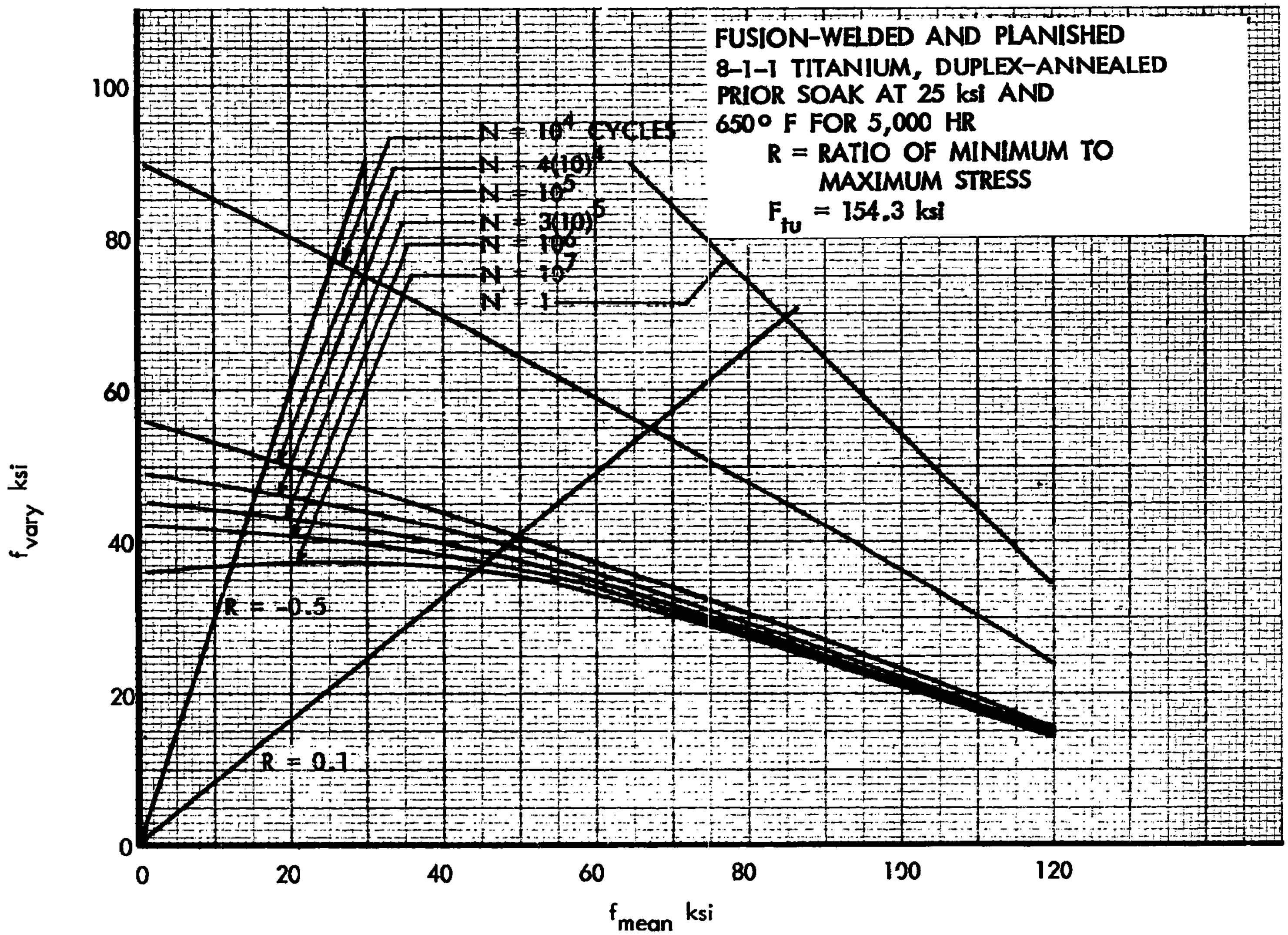


Figure 280. S-N Diagram at Room Temperature, Fusion-Welded 8-1-1 Titanium

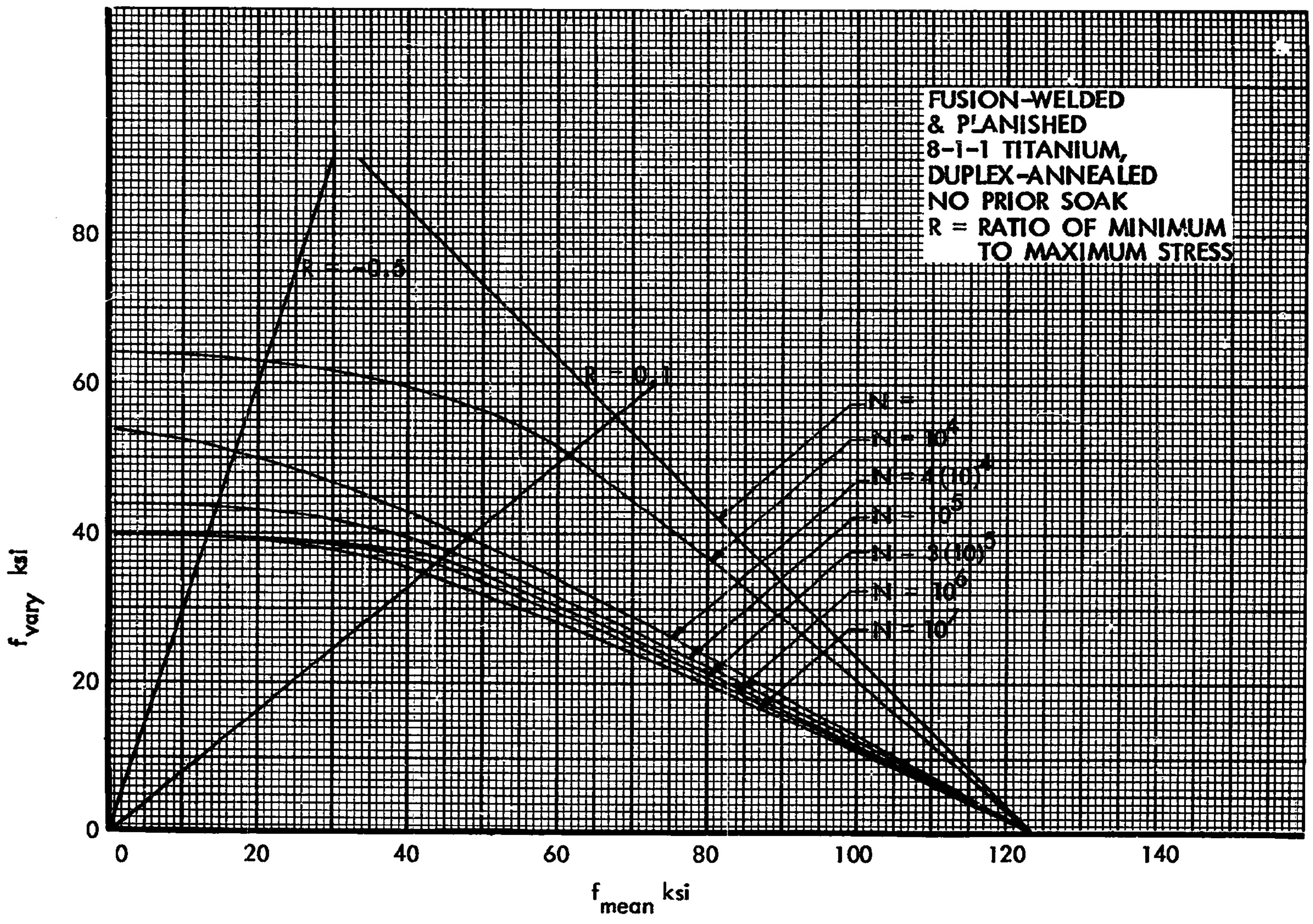


Figure 281. S-N Diagram at 400°F, Fusion-Welded 8-1-1 Titanium

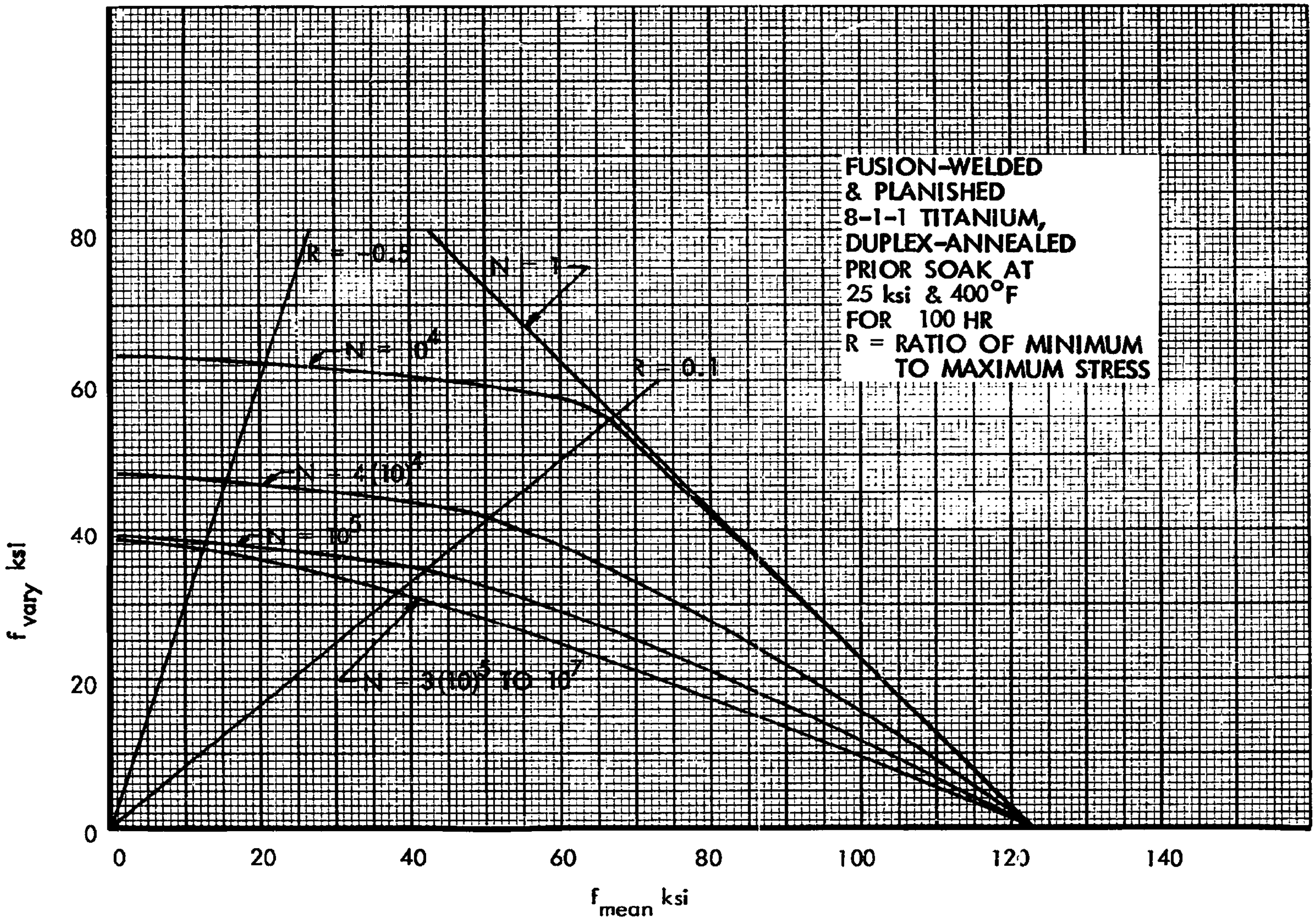


Figure 282. S-N Diagram at 400°F, Fusion-Welded 8-1-1 Titanium

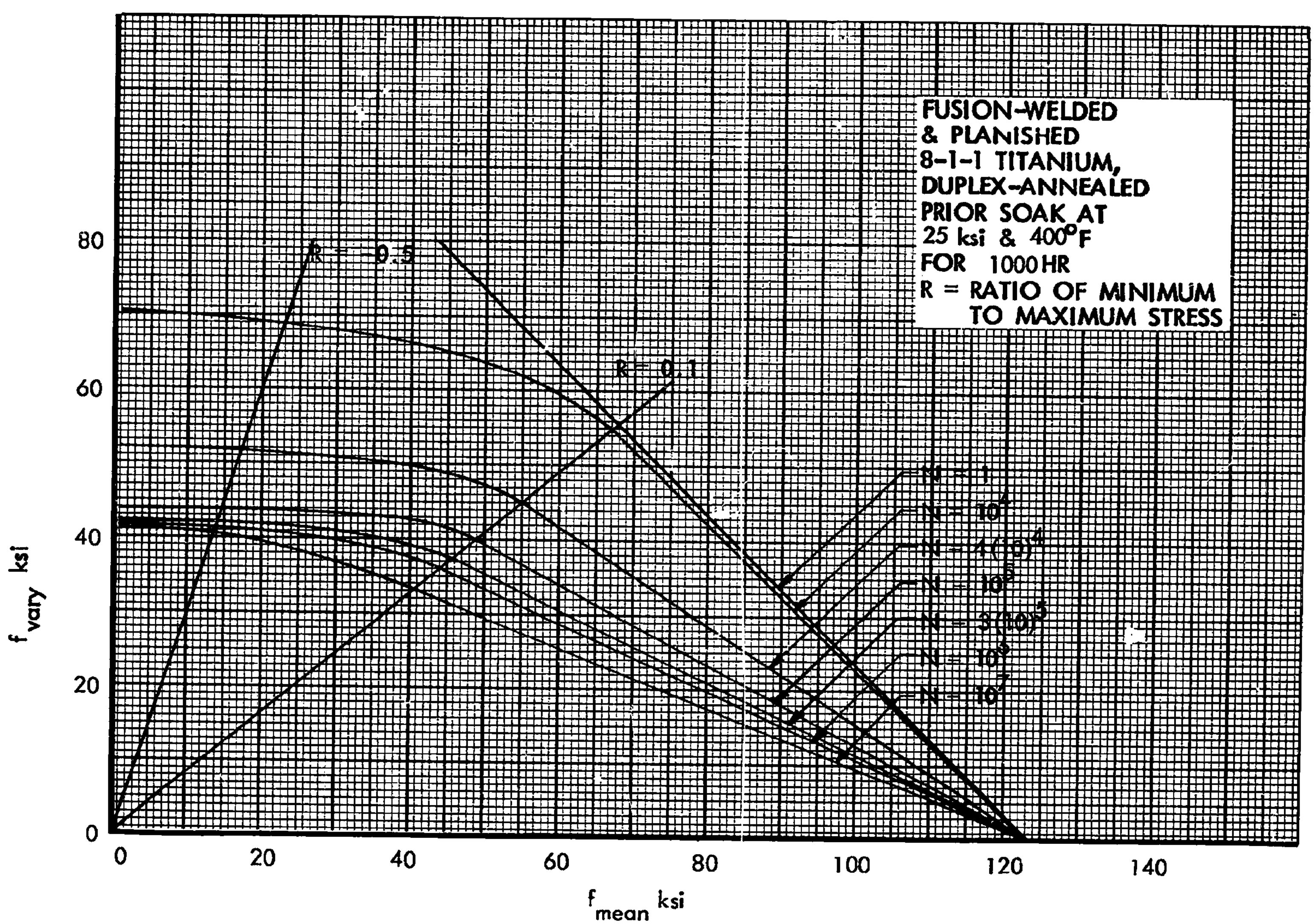


Figure 283. S-N Diagram at 400°F, Fusion-Welded 8-1-1 Titanium

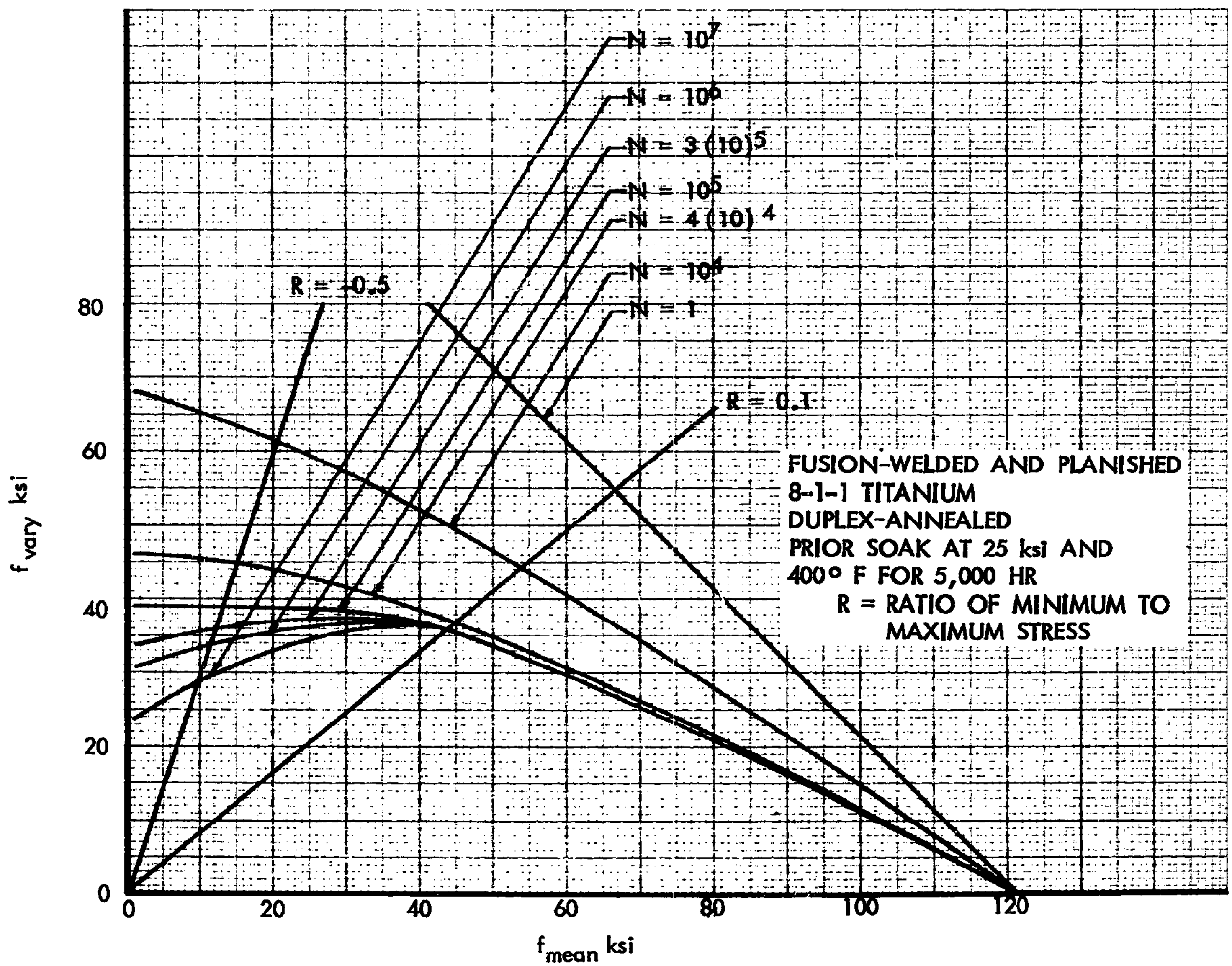


Figure 284. S-N Diagram at 400°F, Fusion-Welded 8-1-1 Titanium

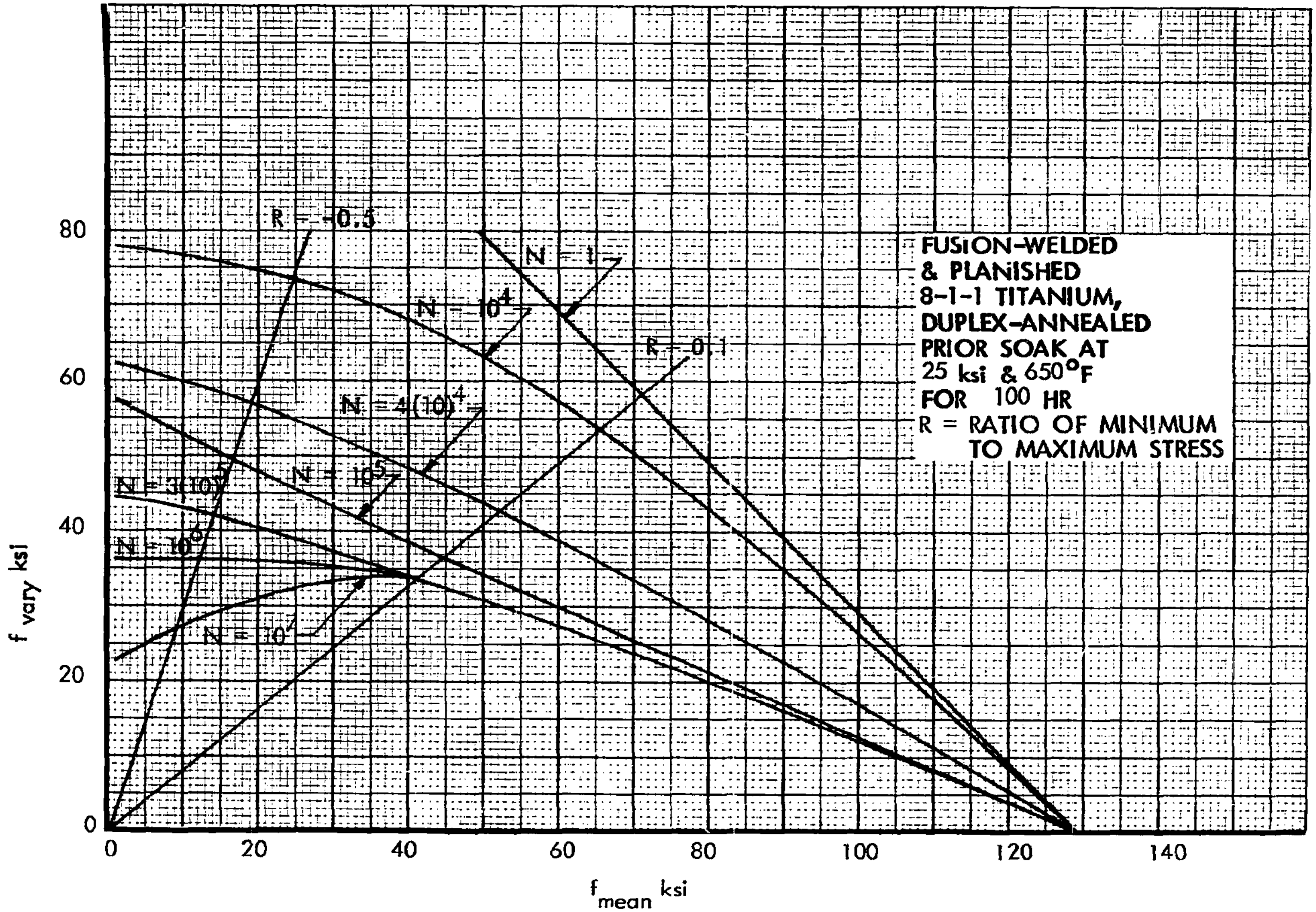


Figure 285. S-N Diagram at 400°F, Fusion-Welded 8-1-1 Titanium

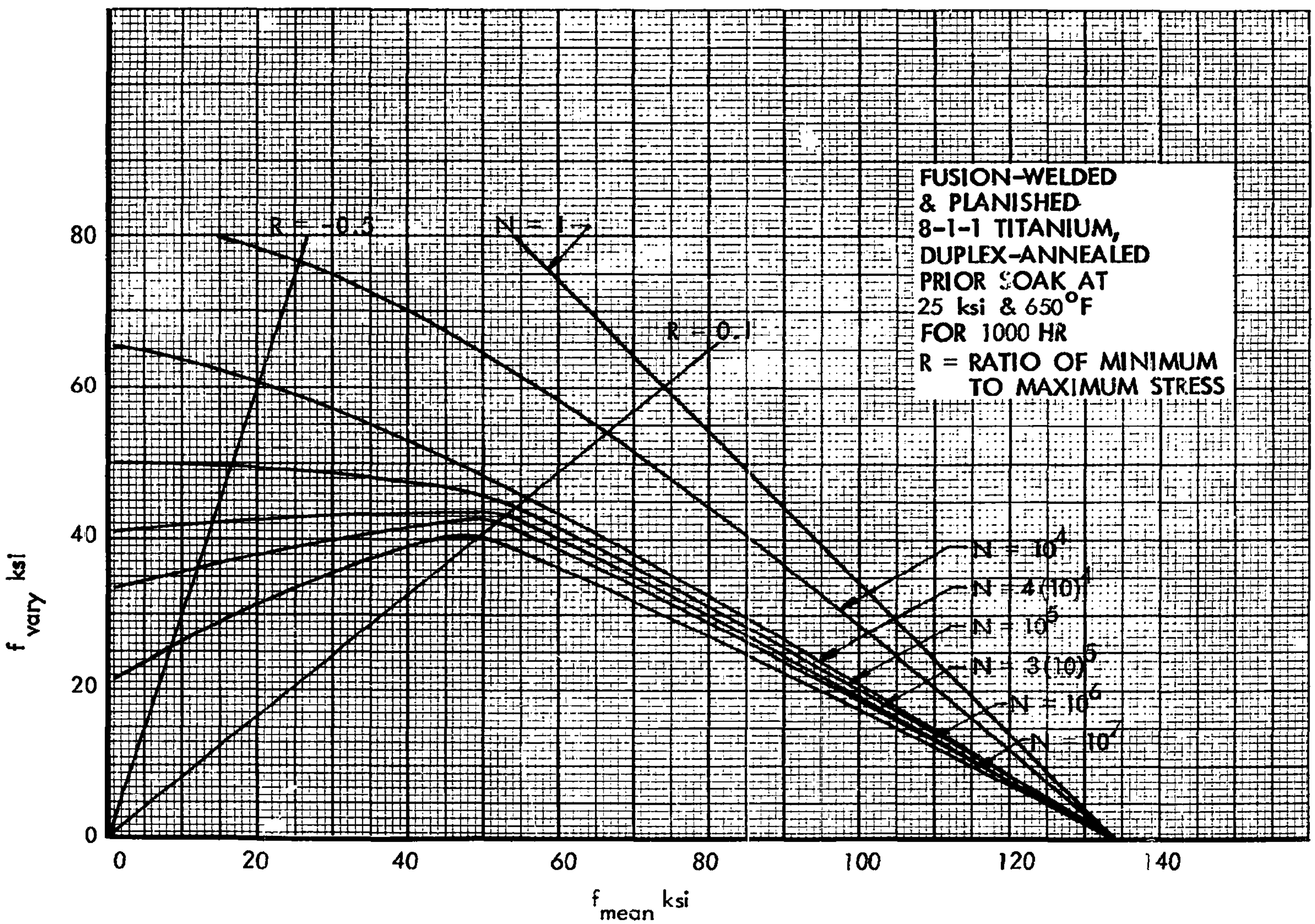


Figure 286. S-N Diagram at 400°F, Fusion-Welded 8-1-1 Titanium

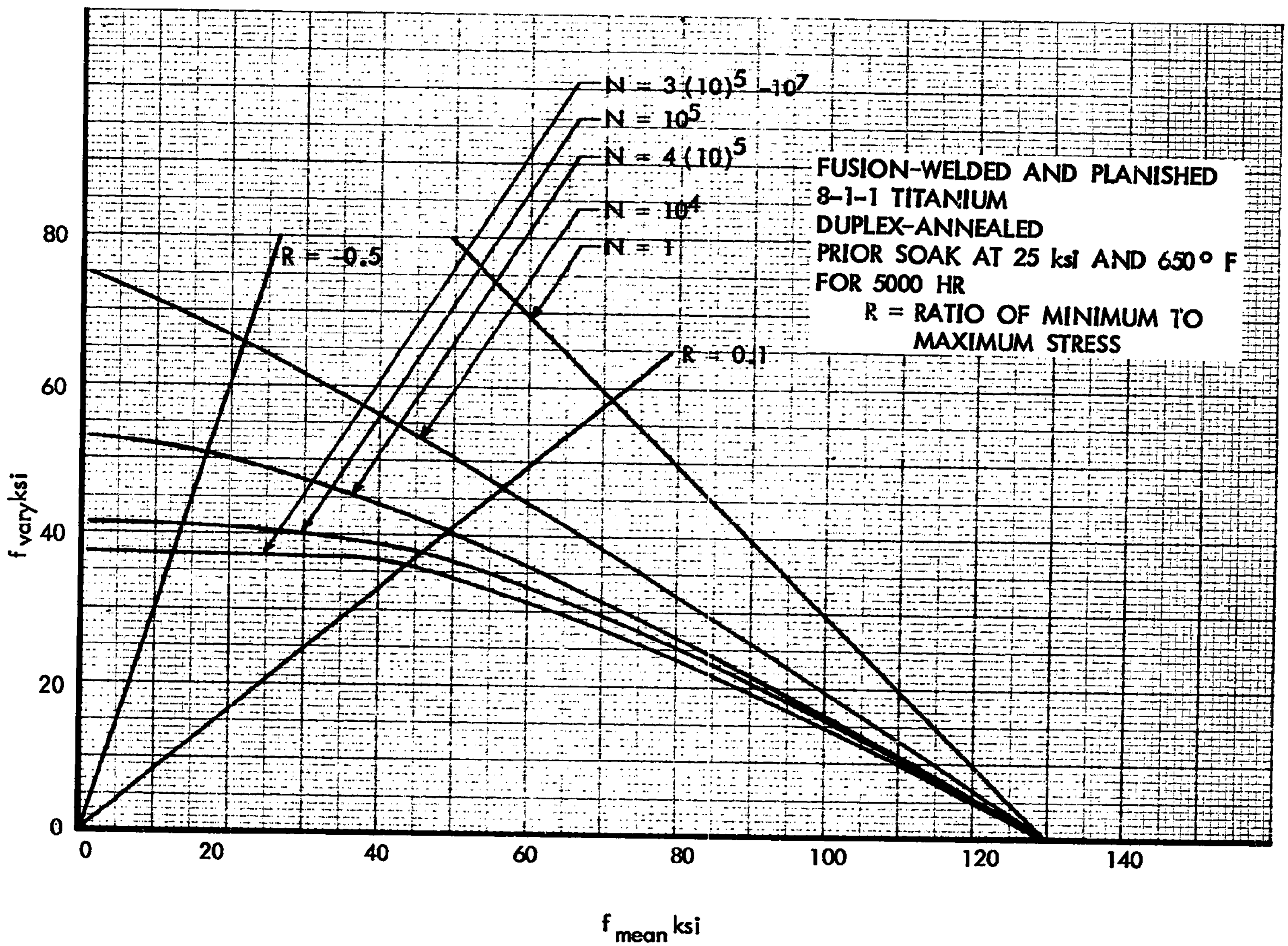


Figure 287. S-N Diagram at 400°F, Fusion-Welded 8-1-1 Titanium

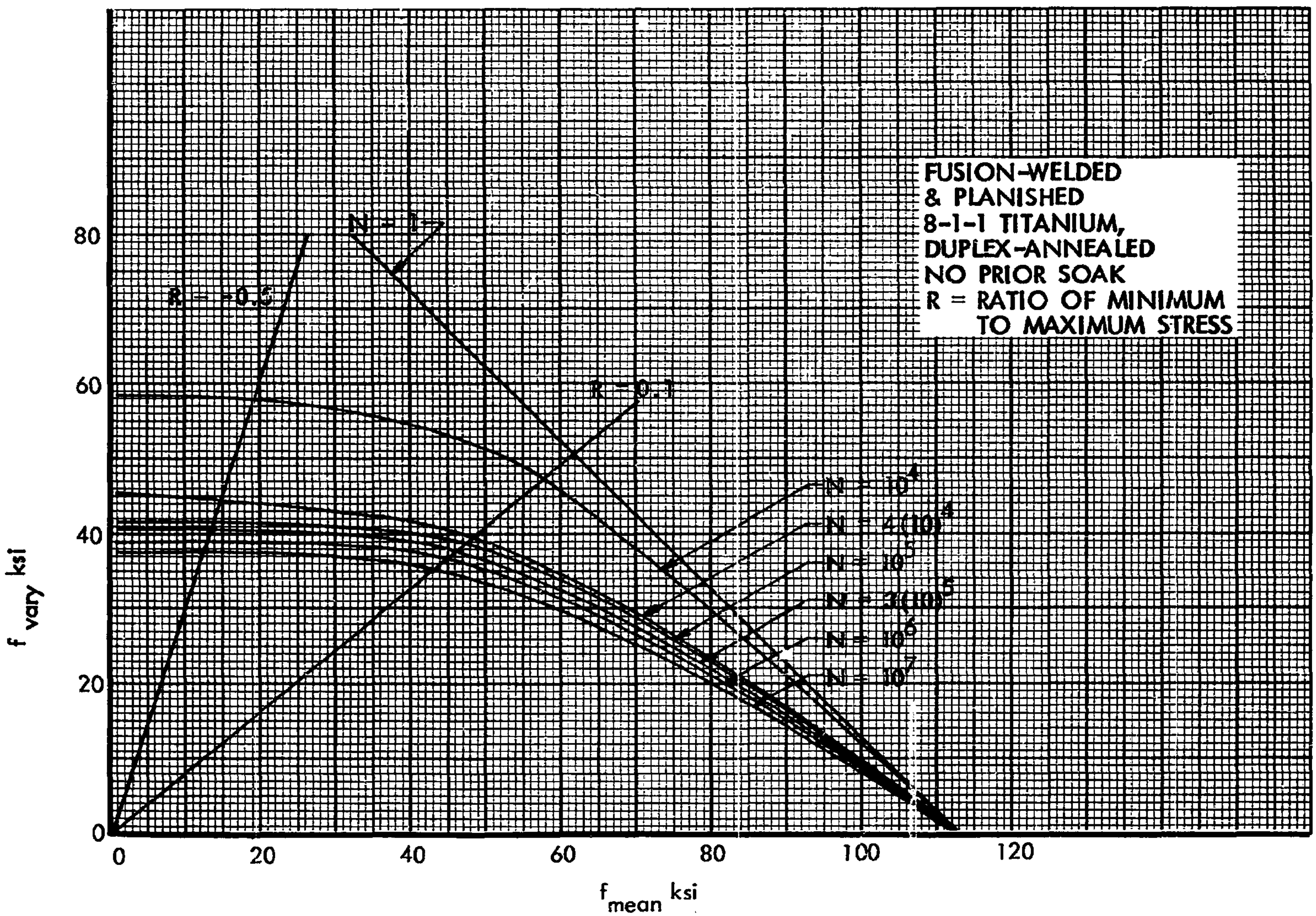


Figure 288. S-N Diagram at 650°F, Fusion-Welded 8-1-1 Titanium

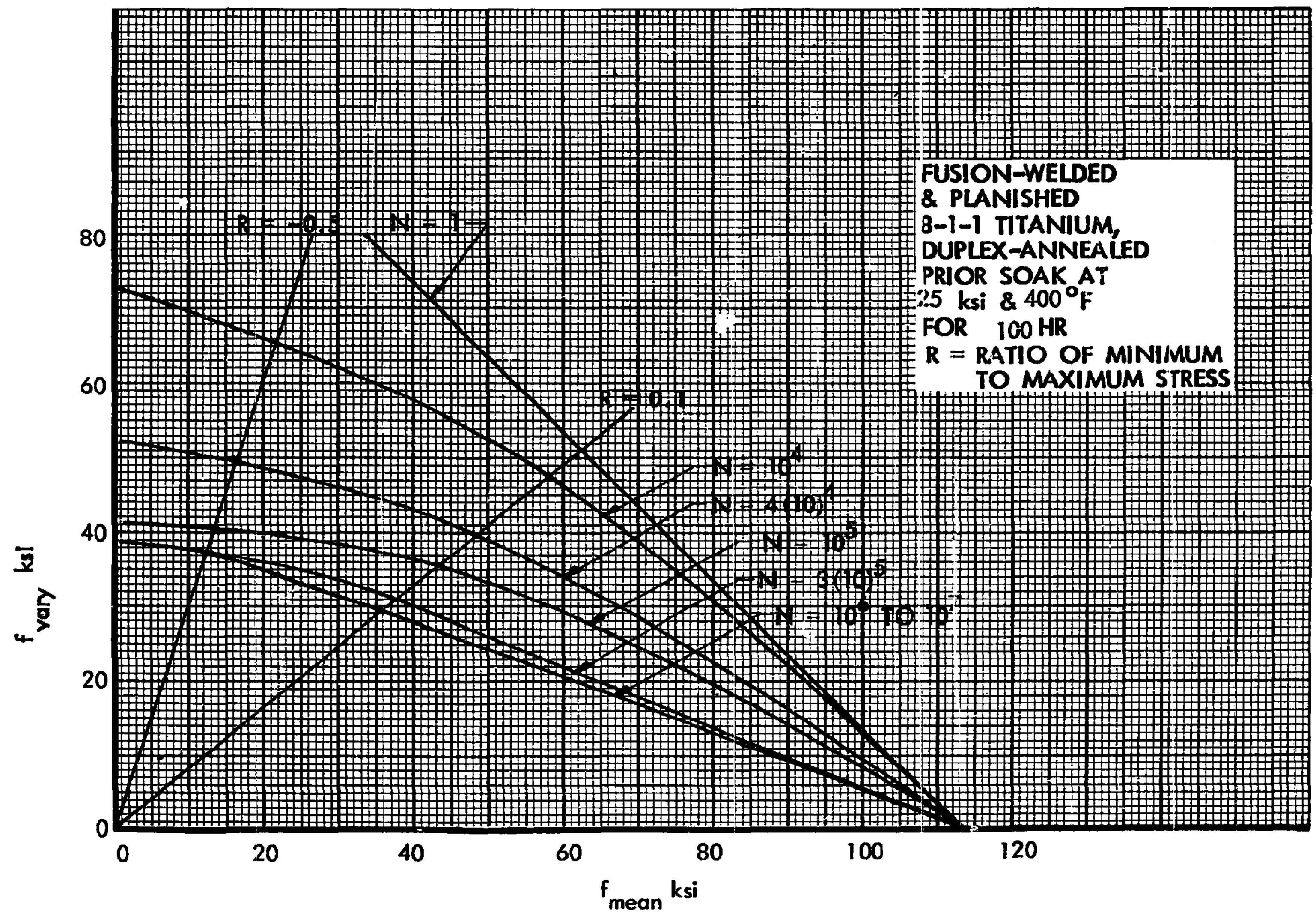


Figure 289. S-N Diagram at 650°F, Fusion-Welded 8-i-1 Titanium

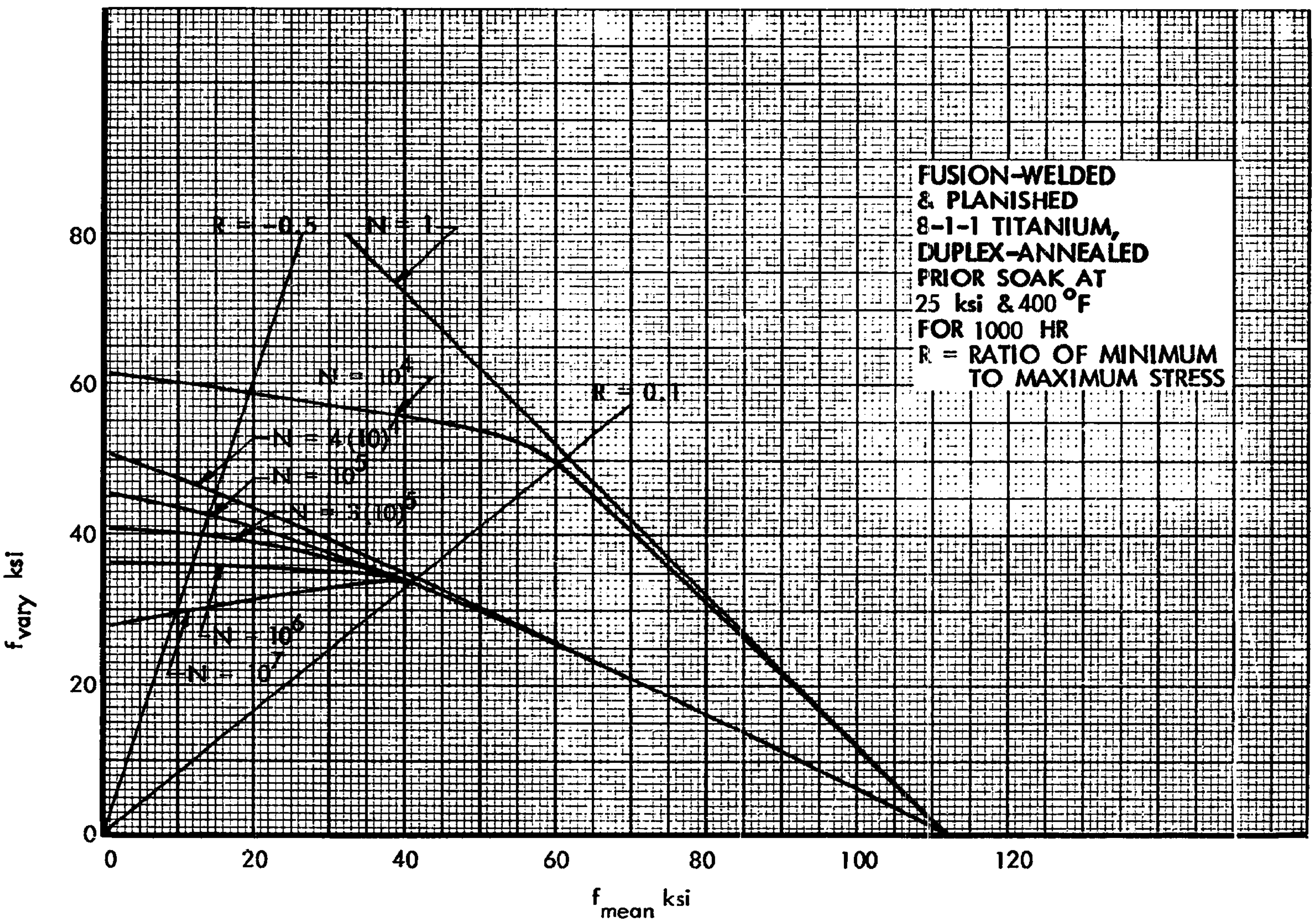


Figure 290. S-N Diagram at 650°F, Fusion-Welded 8-1-1 Titanium

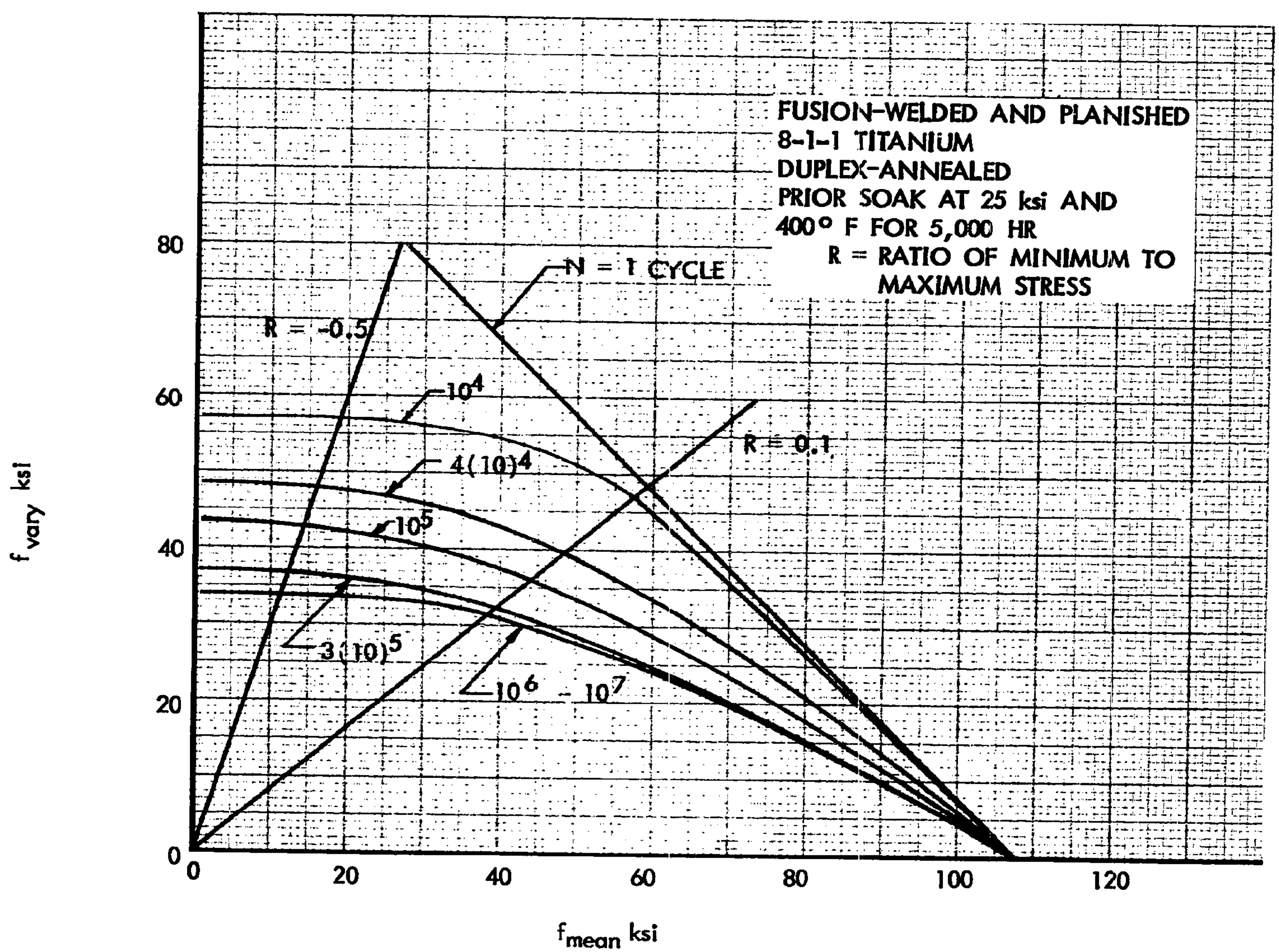


Figure 291. S-N Diagram at 650°F, Fusion-Welded 8-1-1 Titanium

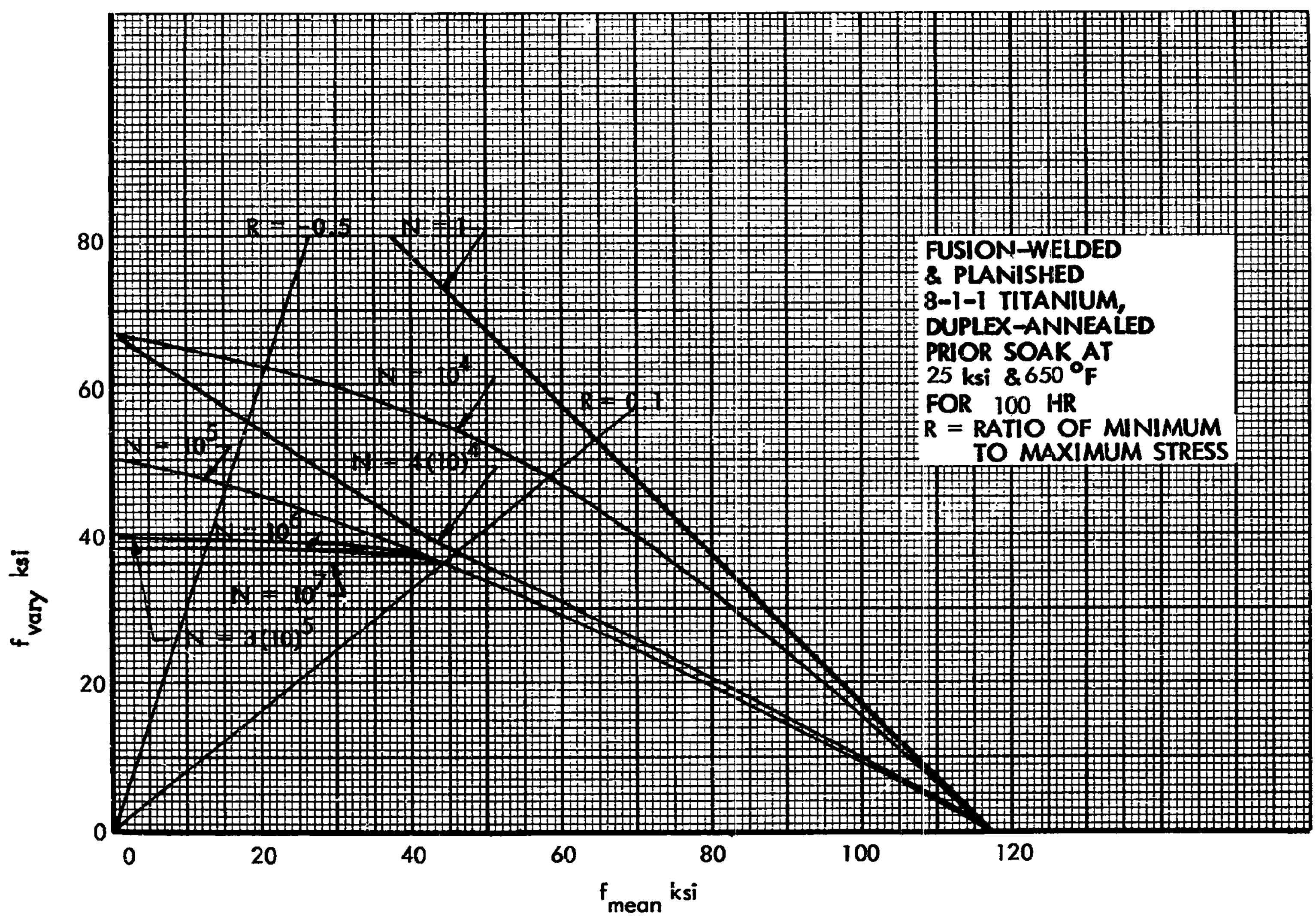


Figure 292. S-N Diagram at 650°F, Fusion-Welded 8-1-1 Titanium

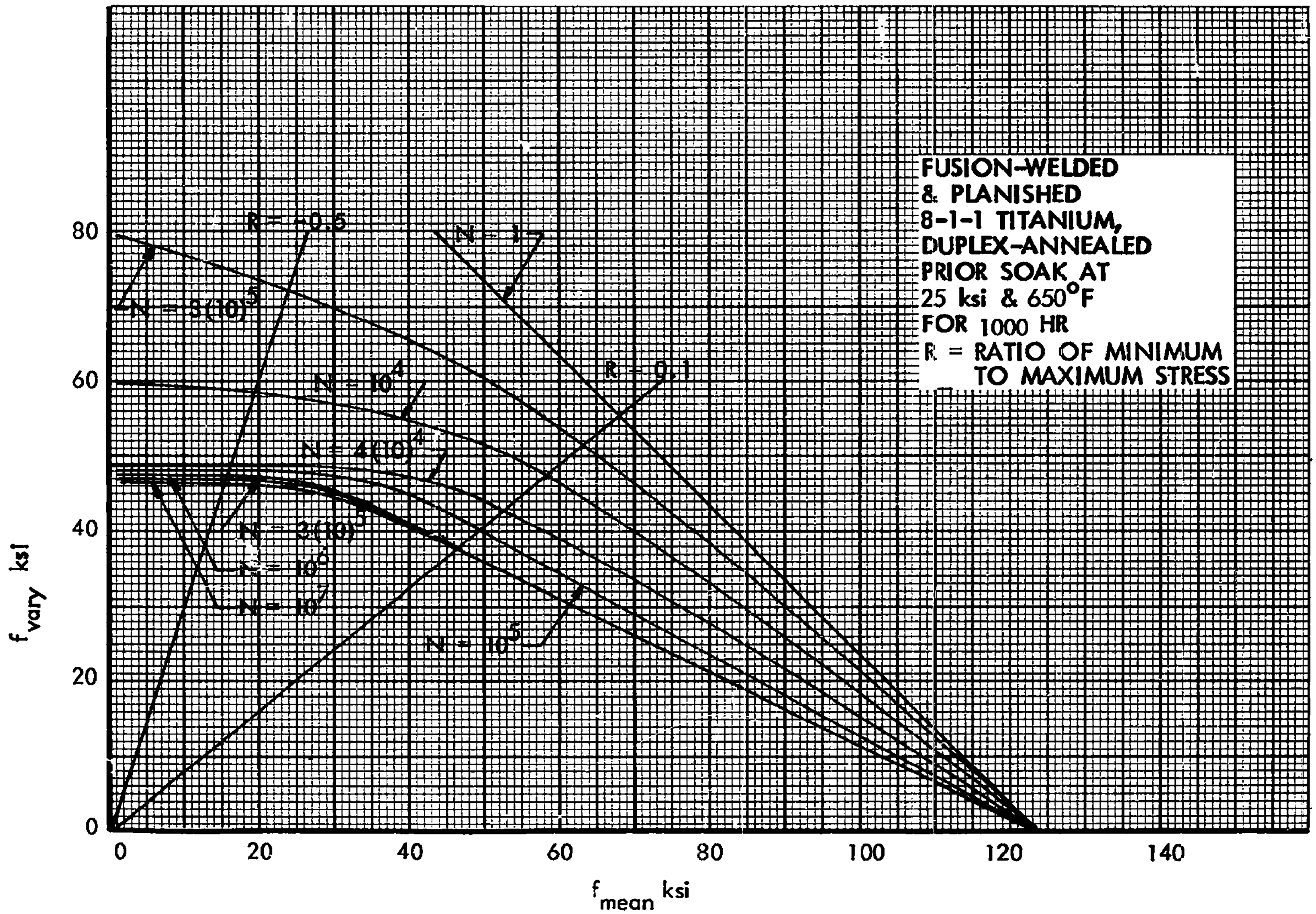


Figure 293. S-N Diagram at 650°F, Fusion-Welded 8-1-1 Titanium

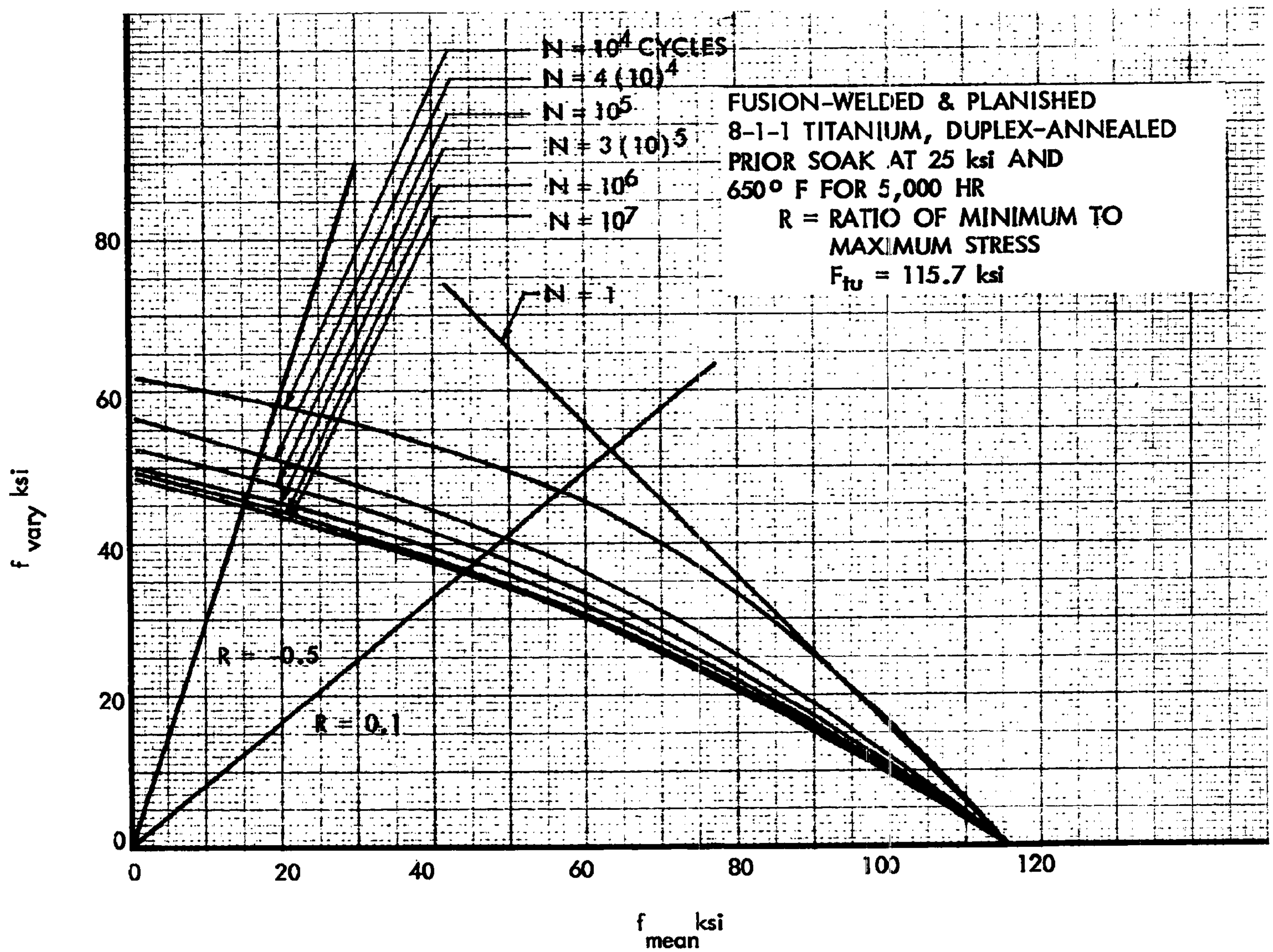


Figure 294. S-N Diagram at 650°F, Fusion-Welded 8-1-1 Titanium

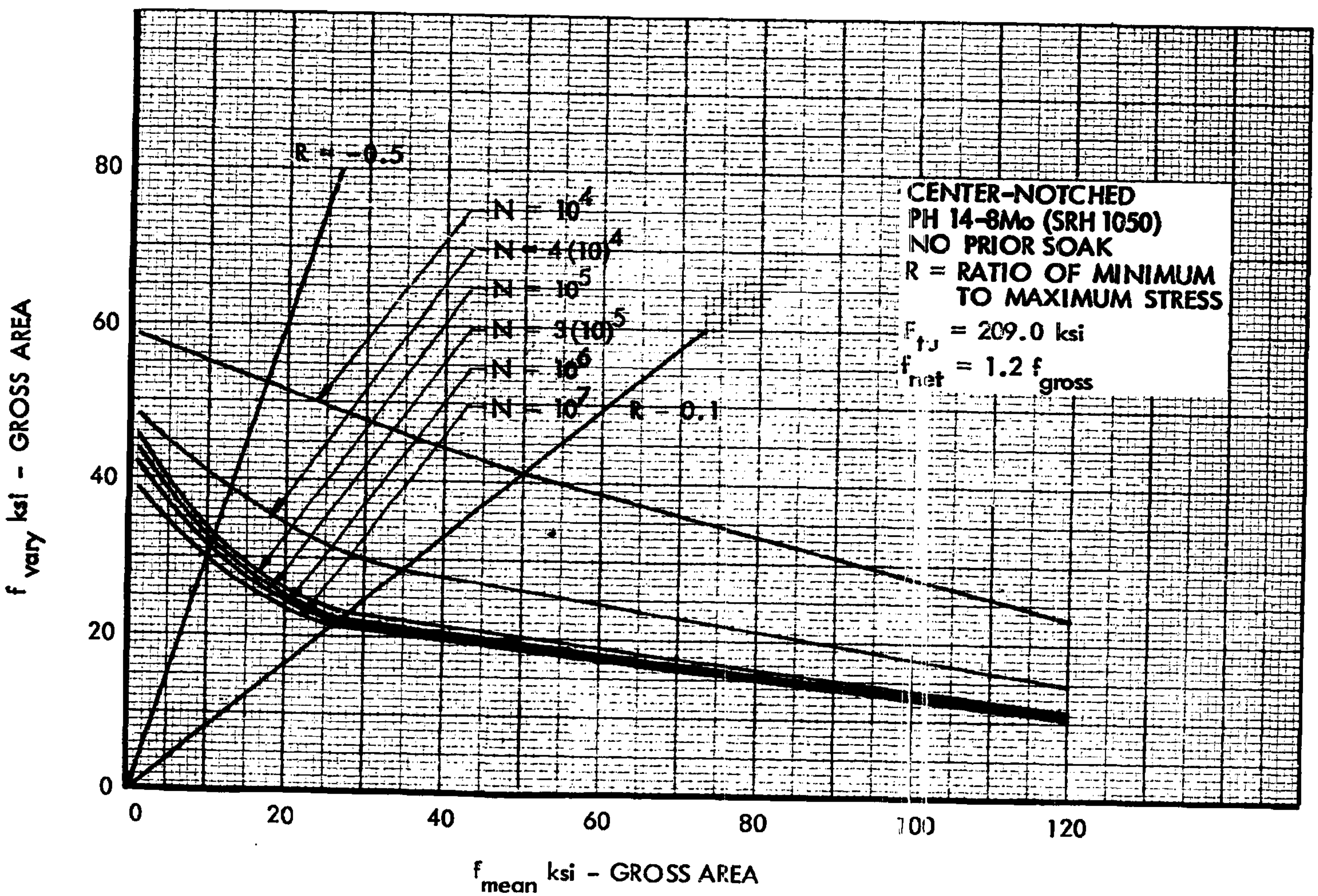


Figure 295. S-N Diagram at Room Temperature, Center-Notched PH14-8Mo

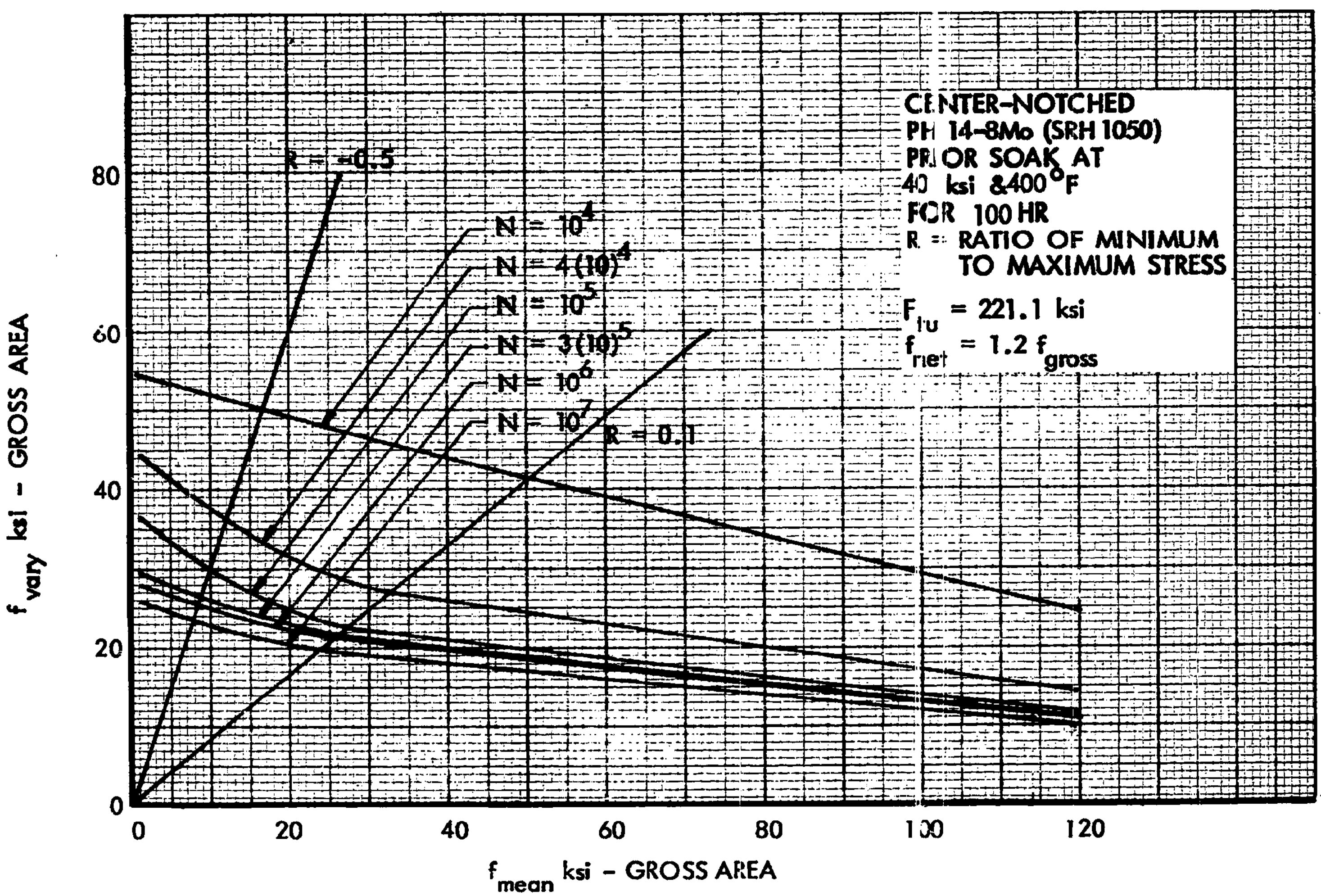


Figure 296. S-N Diagram at Room Temperature, Center-Notched PH14-8Mo

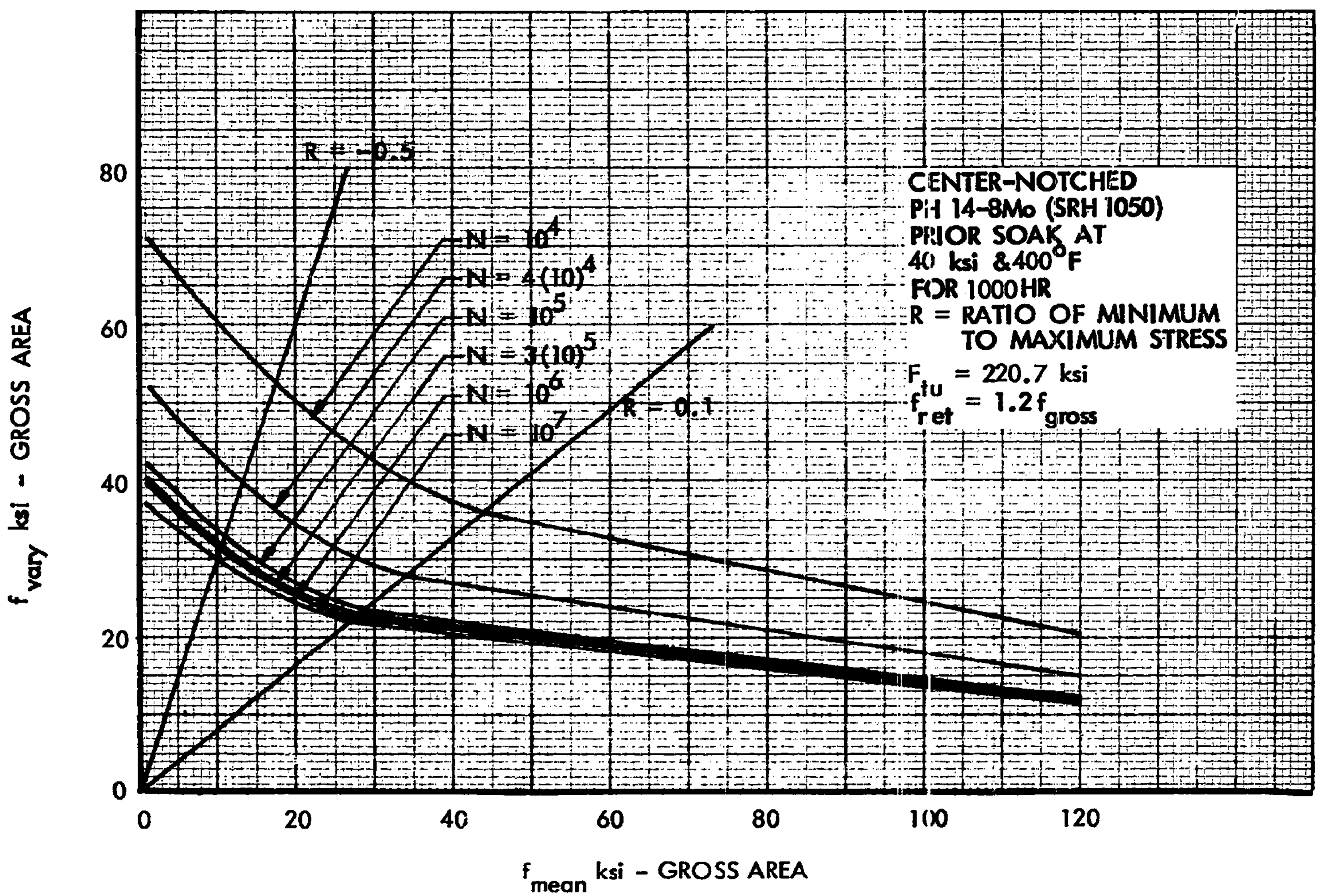


Figure 297. S-N Diagram at Room Temperature, Center-Notched PH14-8Mo

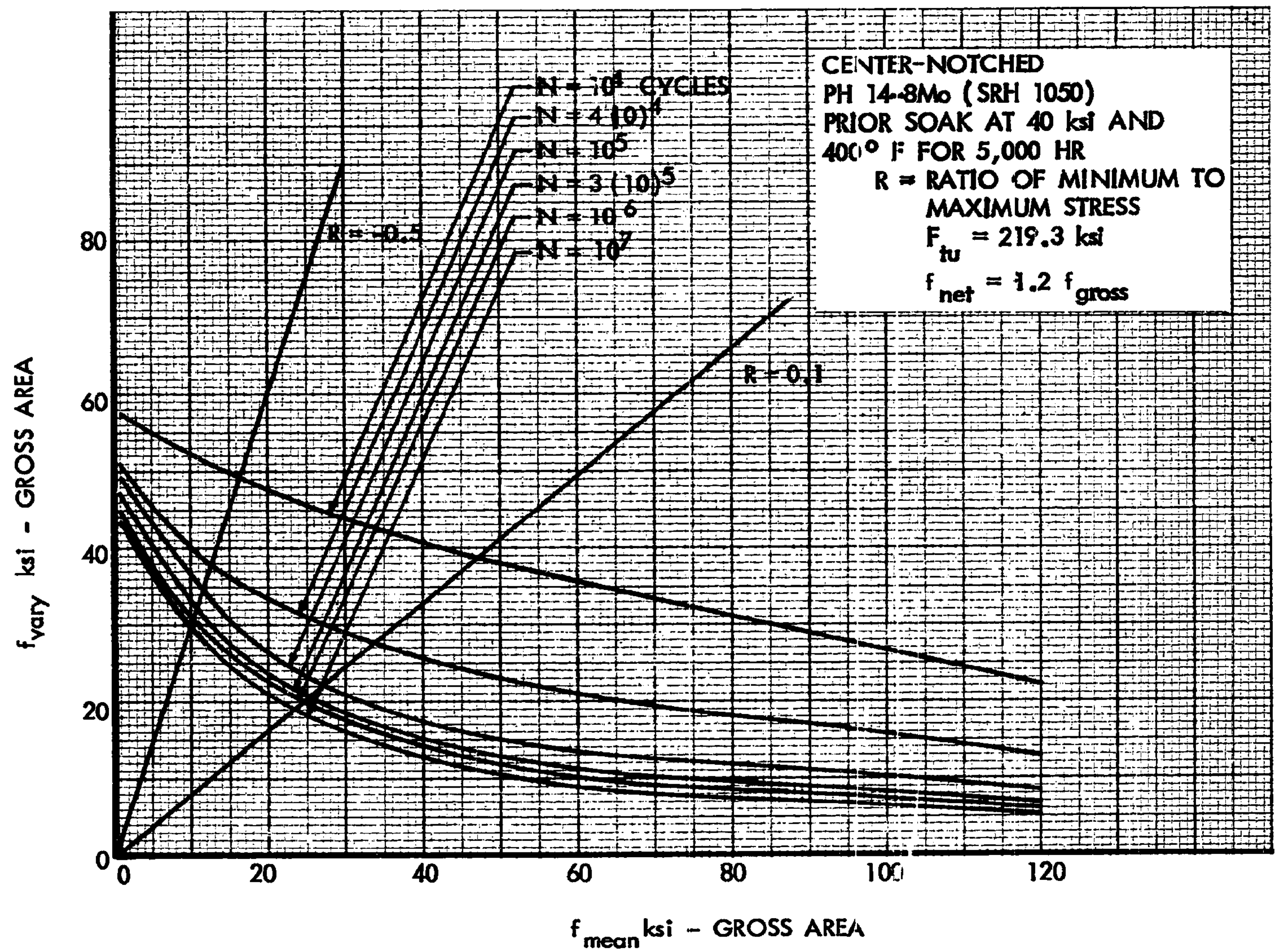


Figure 298. S-N Diagram at Room Temperature, Center-Notched PH14-8Mo

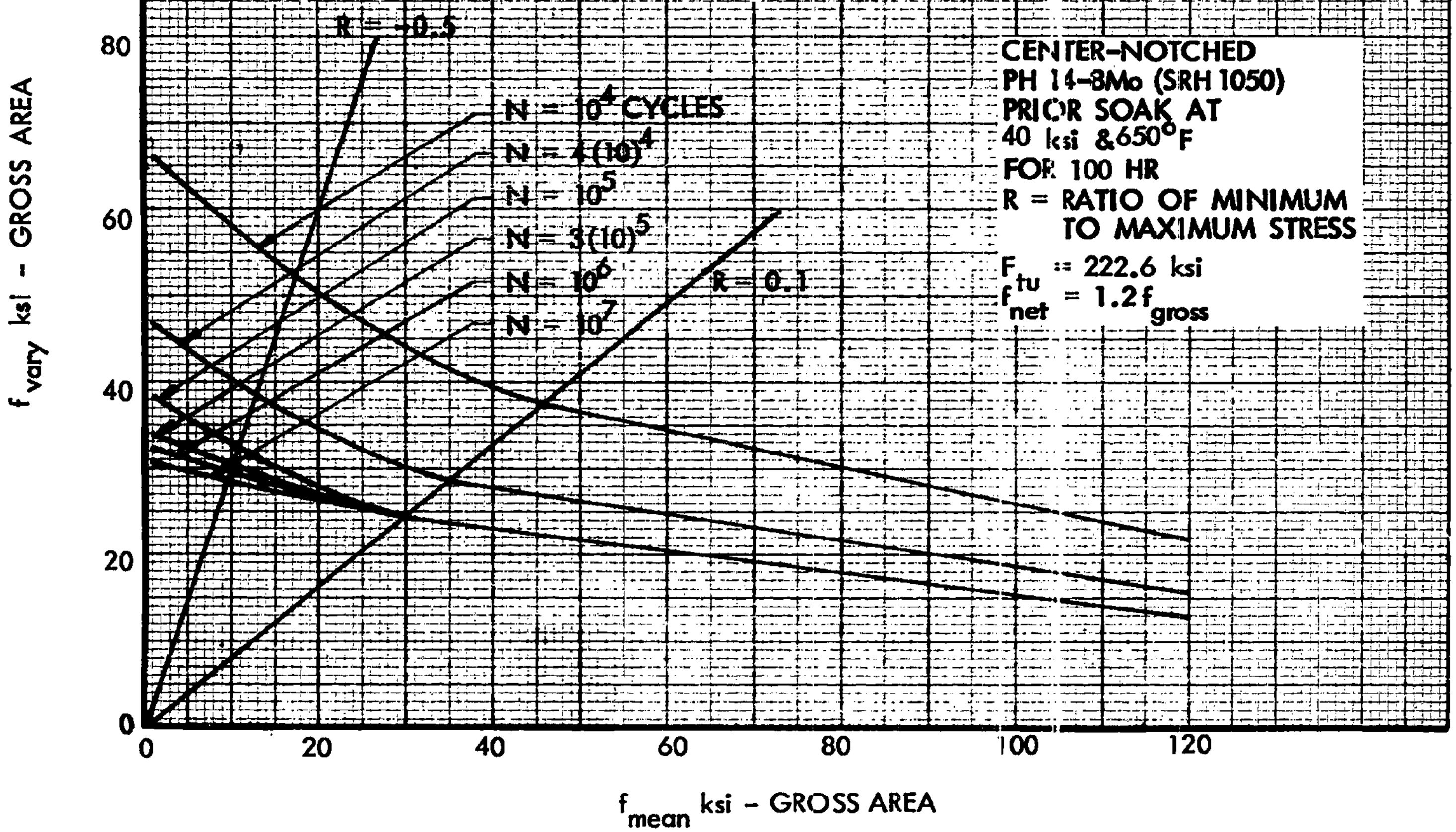


Figure 299. S-N Diagram at Room Temperature, Center-Notched PH14-8Mo

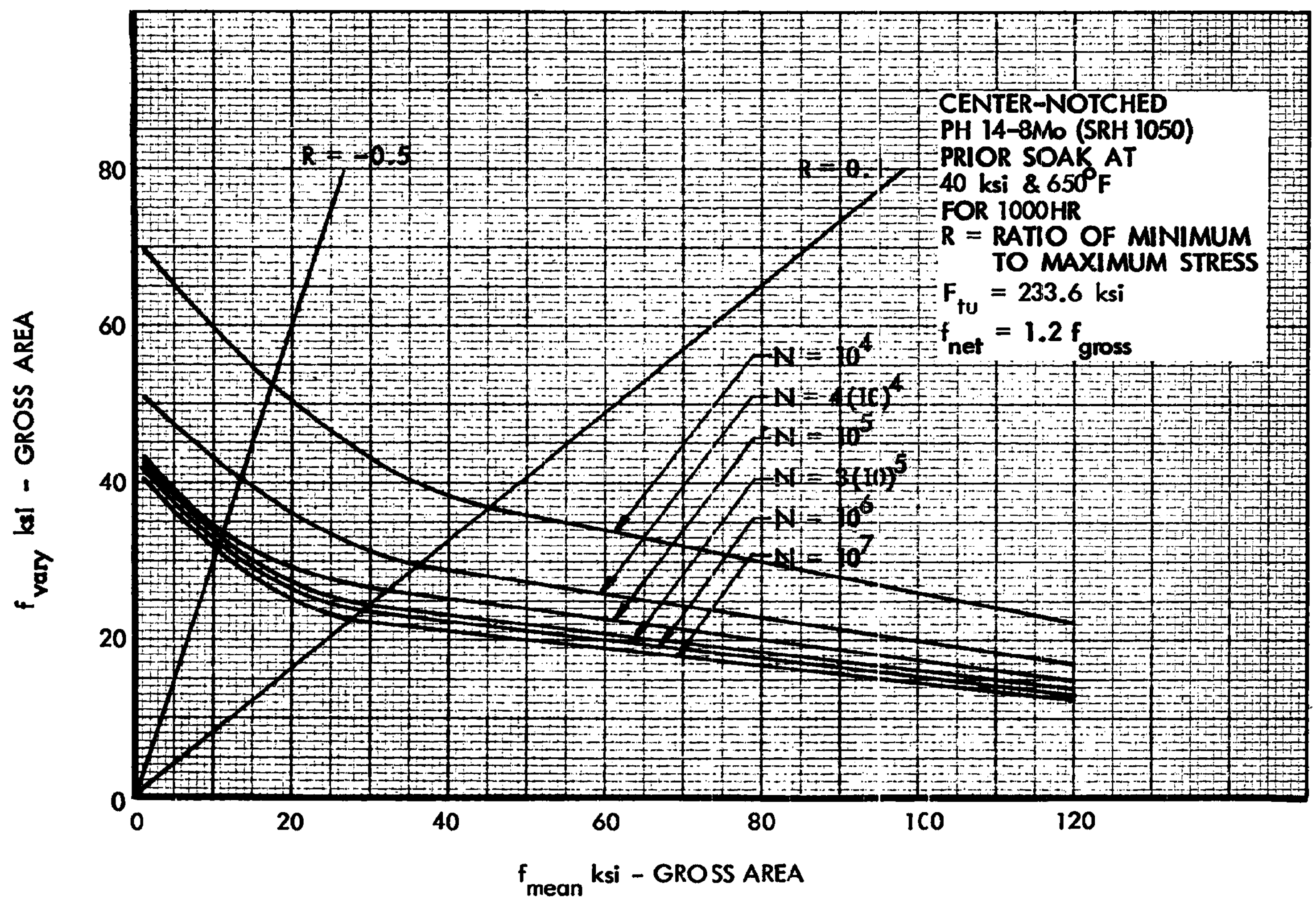


Figure 300. S-N Diagram at Room Temperature, Center-Notched PH14-8Mo

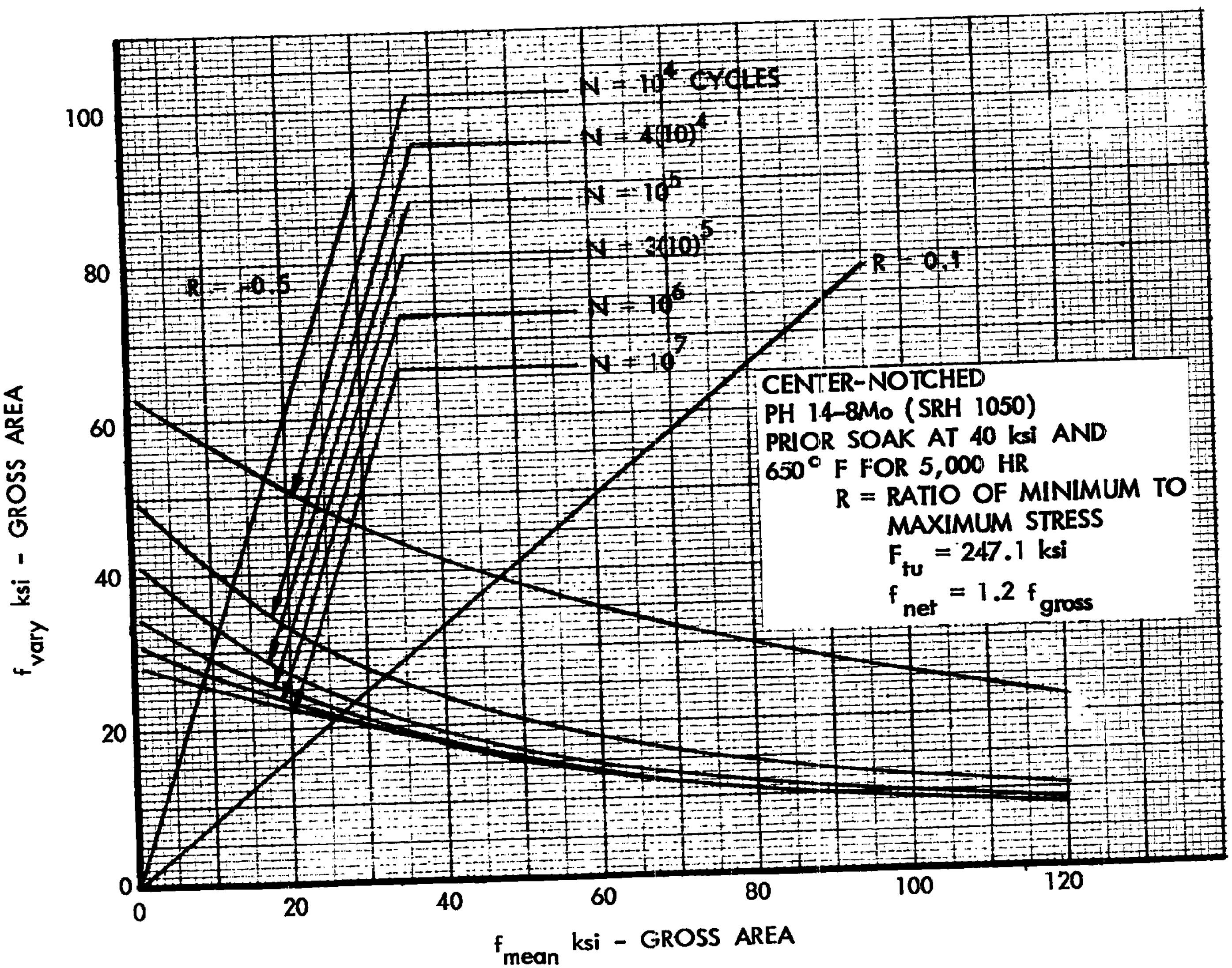


Figure 301. S-N Diagram at Room Temperature, Center-Notched PH14-8Mo

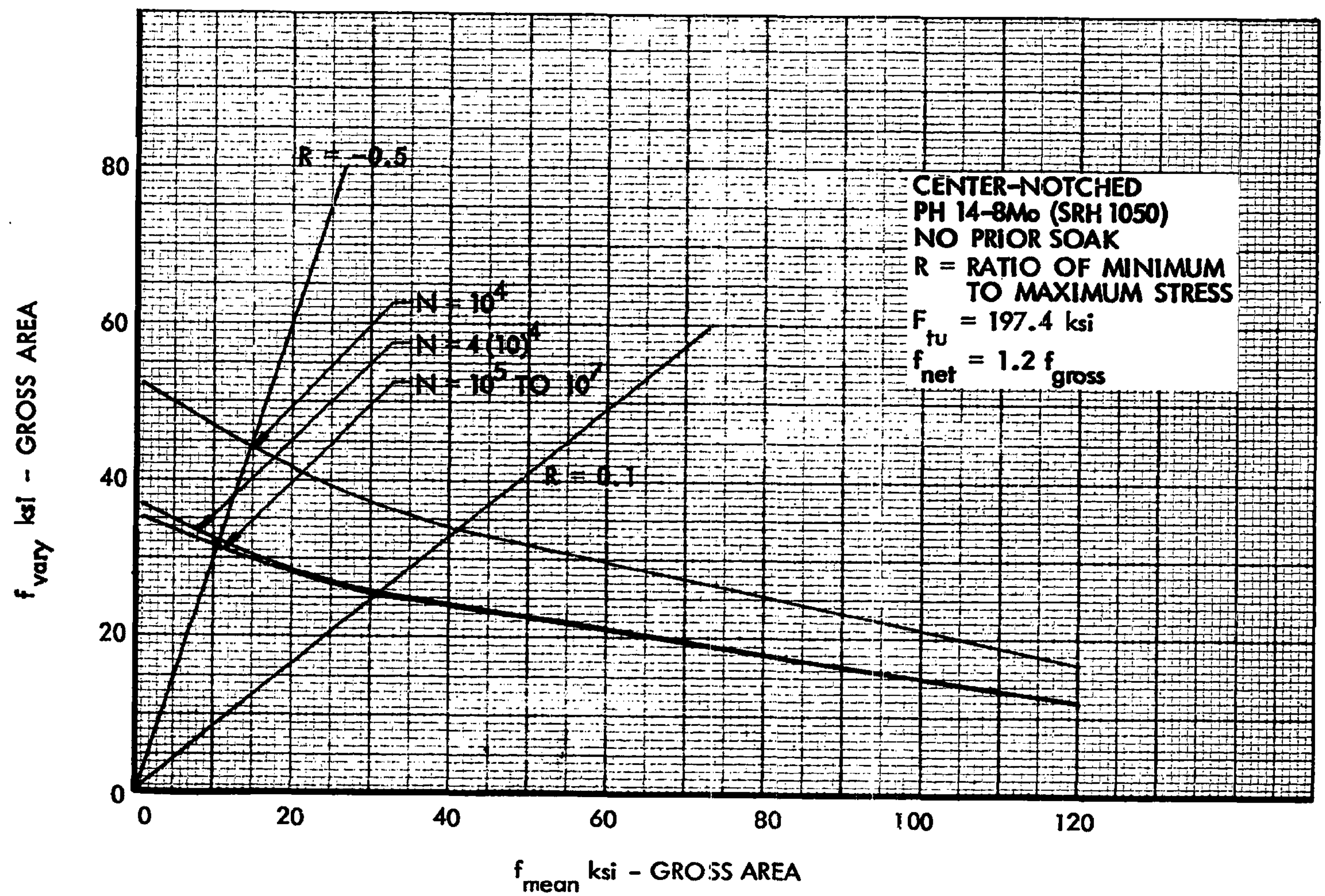


Figure 302. S-N Diagram at 400°F, Center-Notched PH14-8Mo

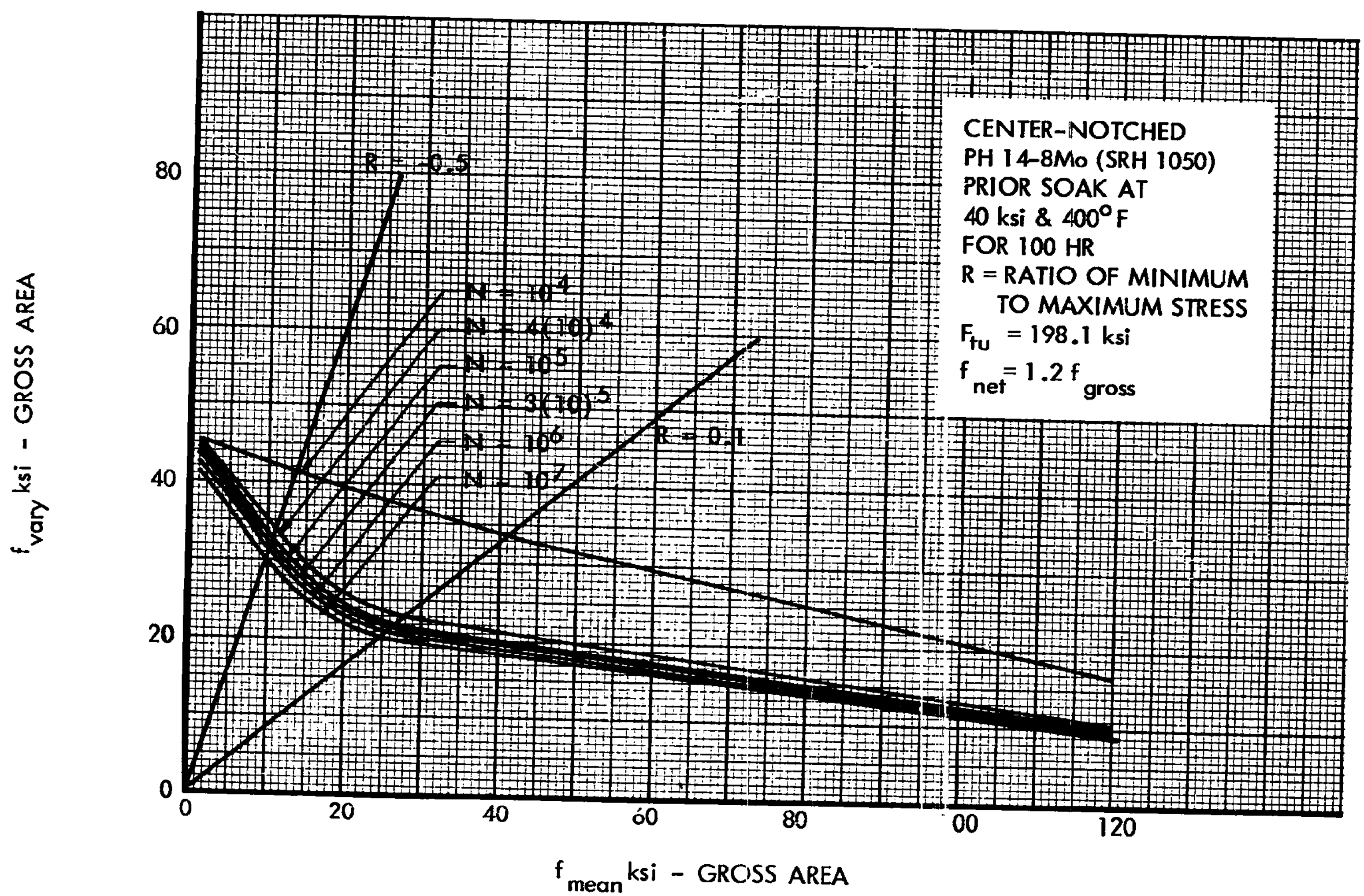


Figure 303. S-N Diagram at 400°F, Center-Notched PH14-8Mo

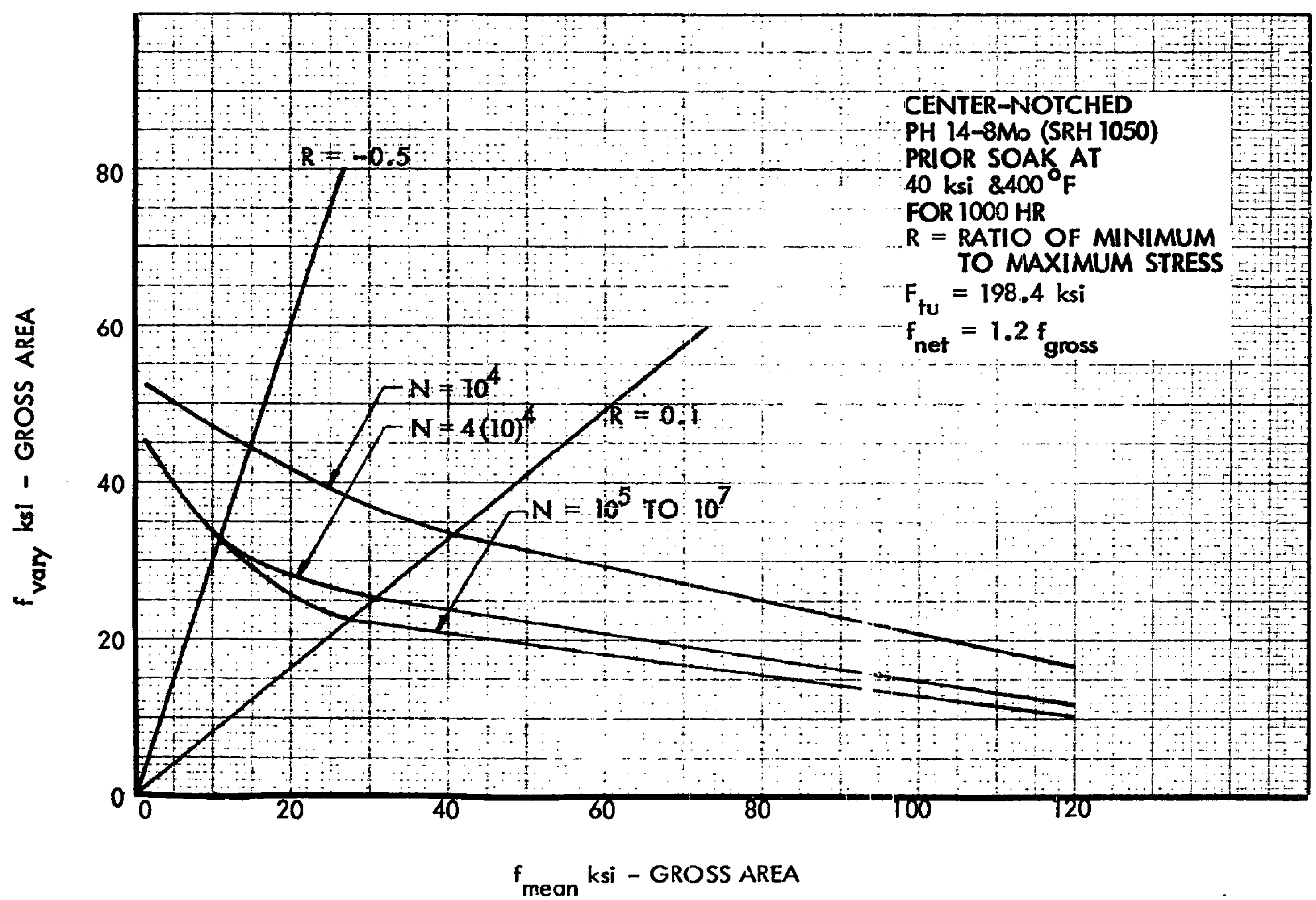


Figure 304. S-N Diagram at 400°F, Center-Notched PH14-8Mo

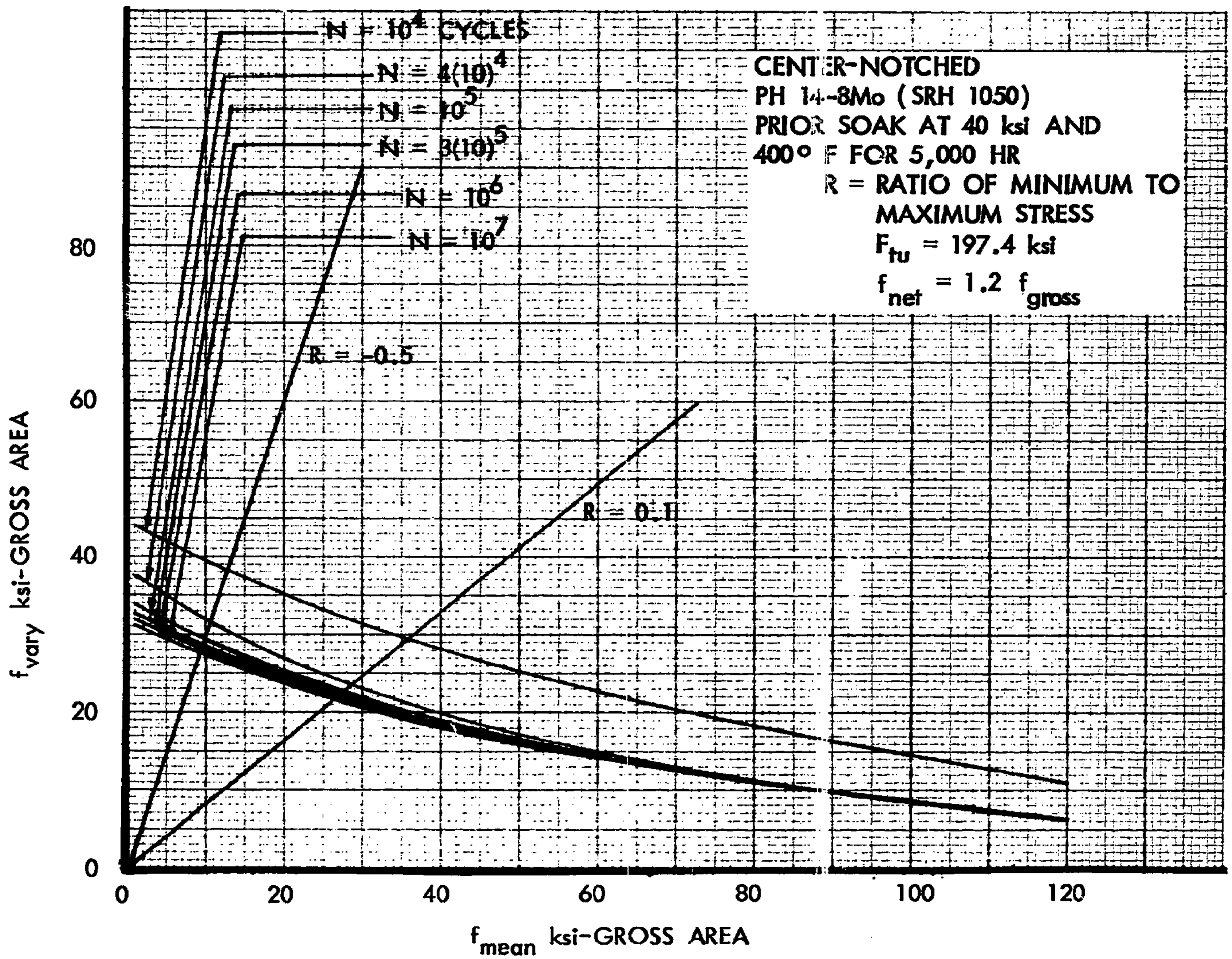


Figure 305. S-N Diagram at 400°F, Center-Notched PH14-8Mo

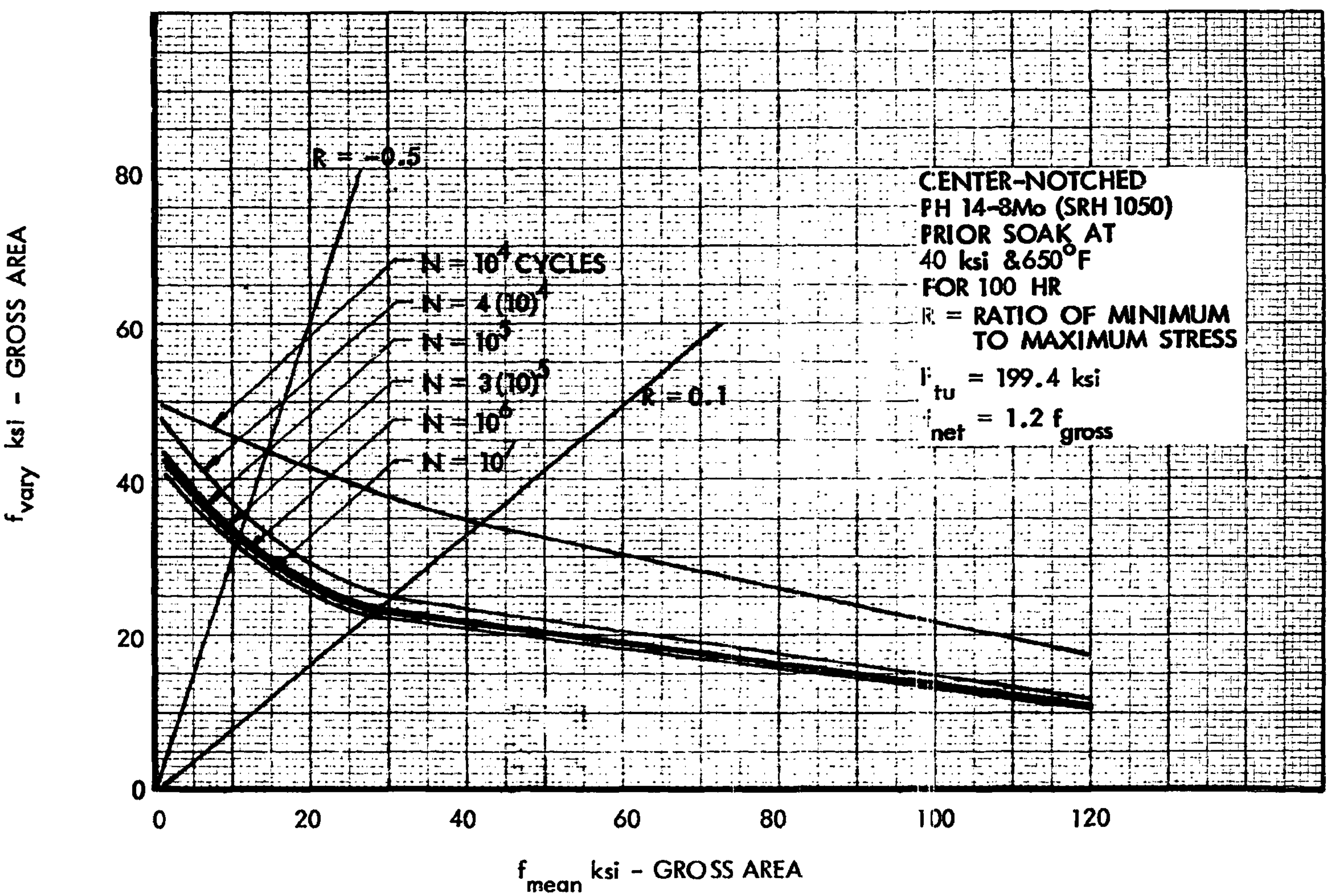


Figure 306. S-N Diagram at 400°F, Center-Notched PH14-8Mo

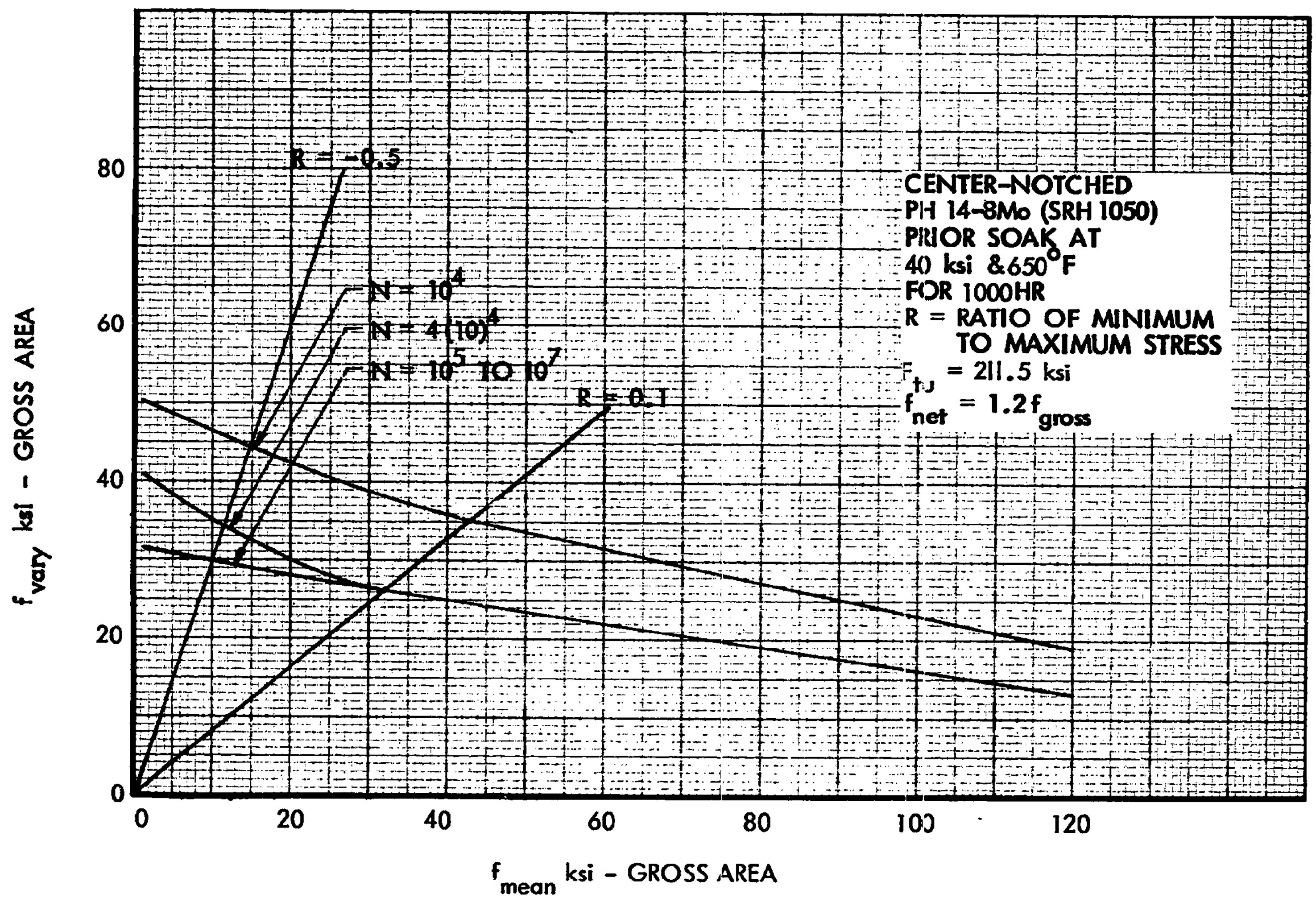


Figure 307. S-N Diagram at 400°F, Center-Notched PH14-8Mo

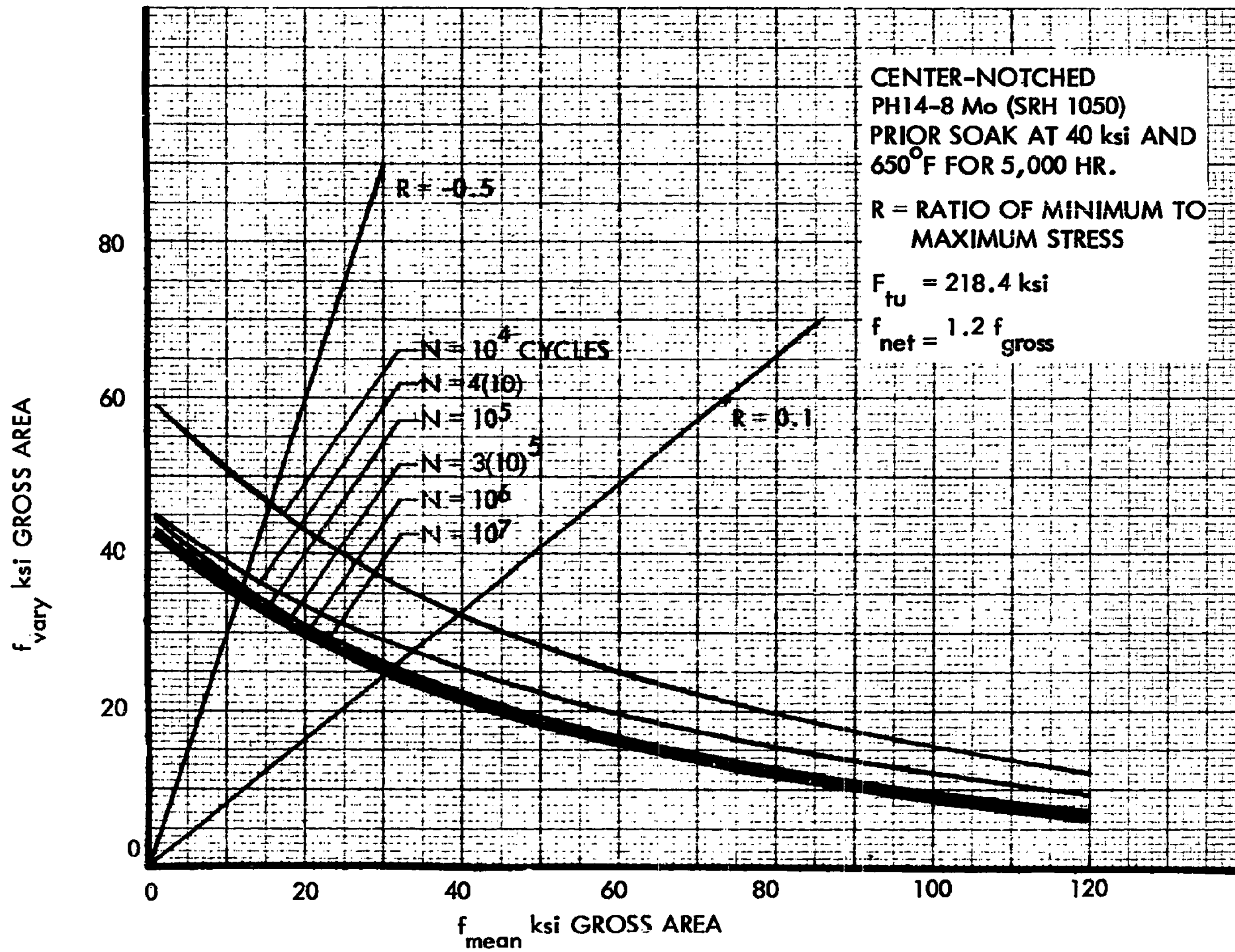


Figure 308. S-N Diagram at 400°F, Center-Notched PH14-8Mo

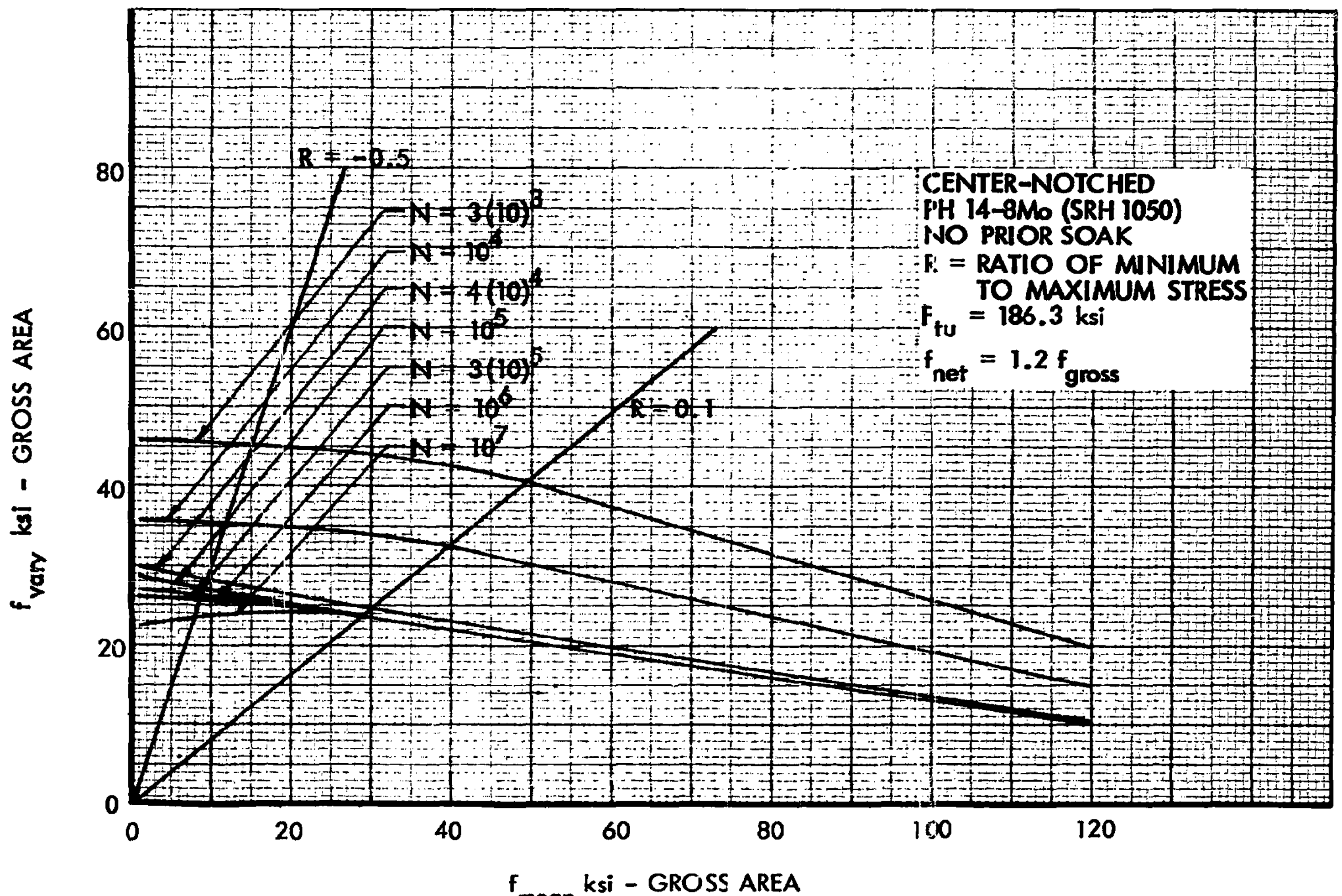


Figure 309. S-N Diagram at 650°F, Center-Notched PH14-8Mo

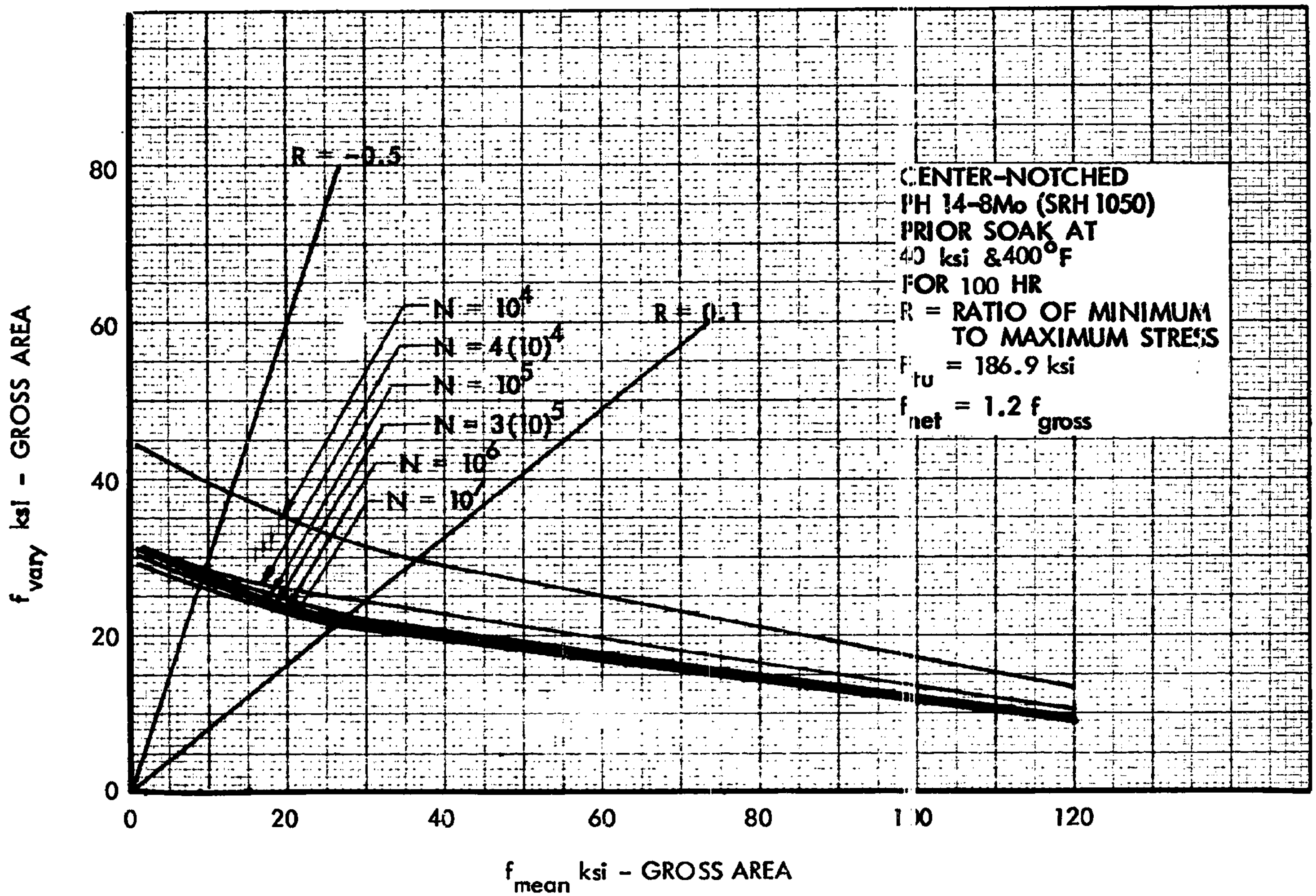


Figure 310. S-N Diagram at 650°F, Center-Notched PH14-8Mo

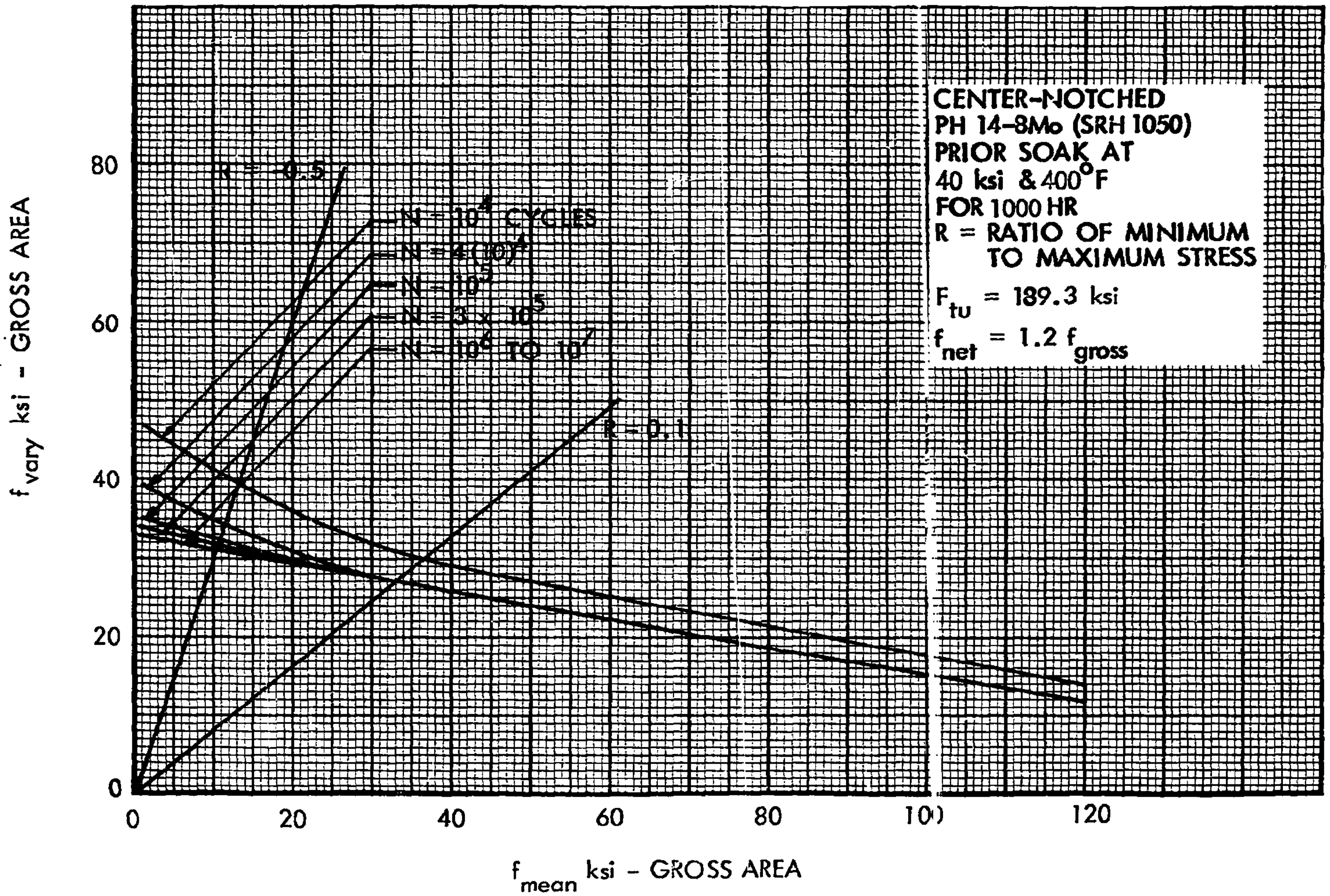


Figure 311. S-N Diagram at 650°F, Center-Notched PH14-8Mo

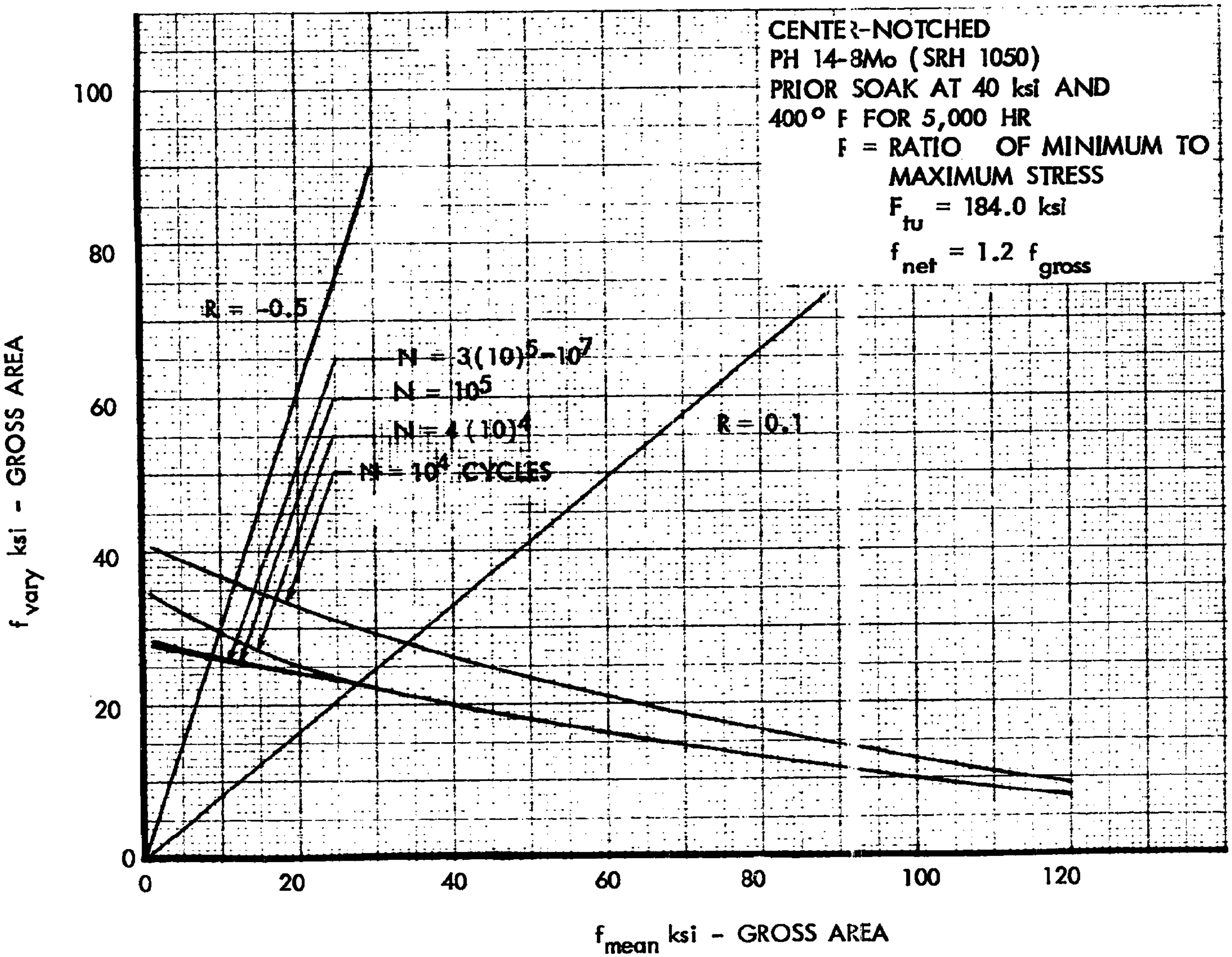


Figure 312. S-N Diagram at 650°F, Center-Notched PH14-8Mo

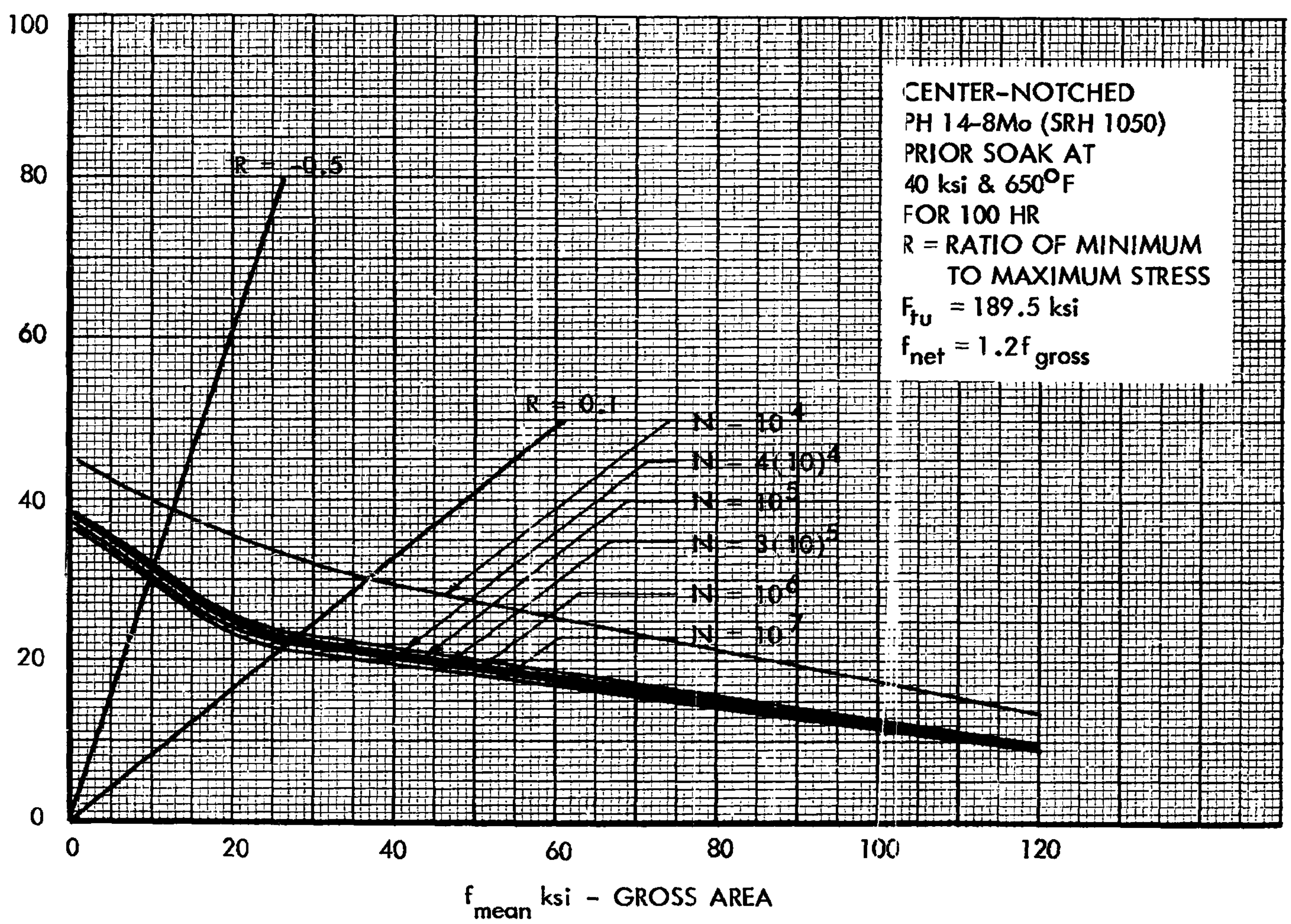


Figure 313. S-N Diagram at 650°F, Center-Notched PH14-8Mo

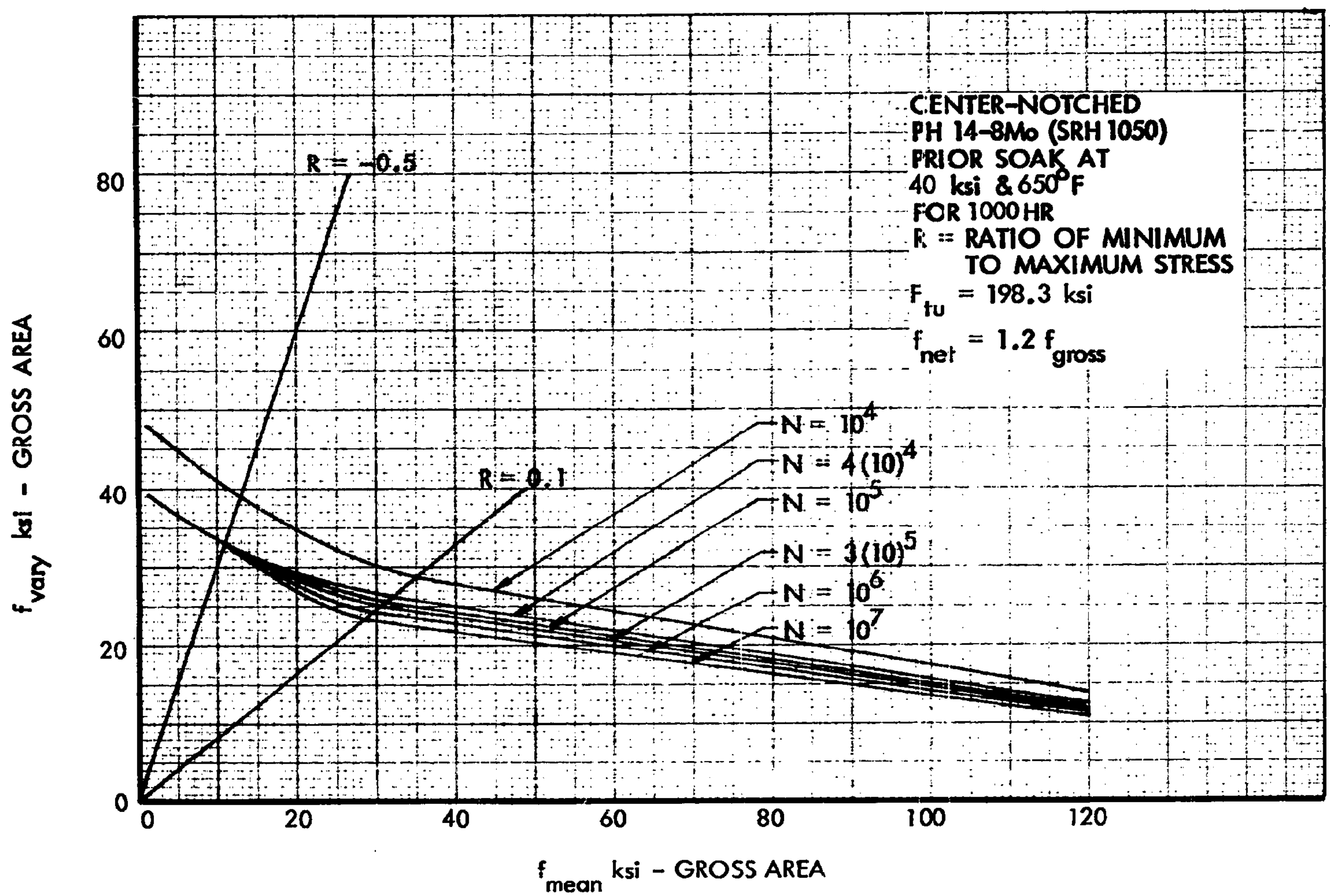


Figure 314. S-N Diagram at 650°F, Center-Notched PH14-8Mo

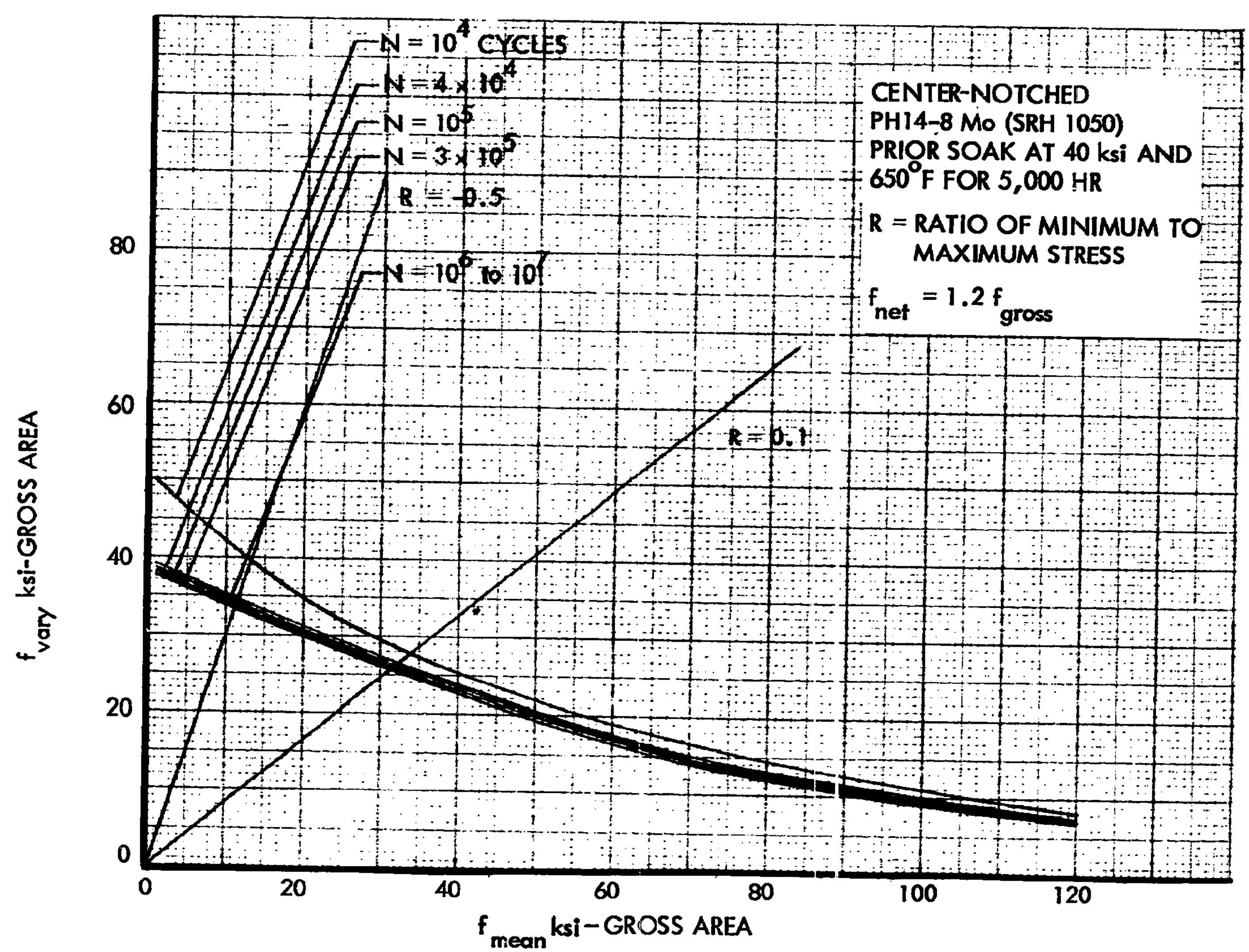


Figure 315. S-N Diagram at 650°F, Center Notched PH14-8Mo

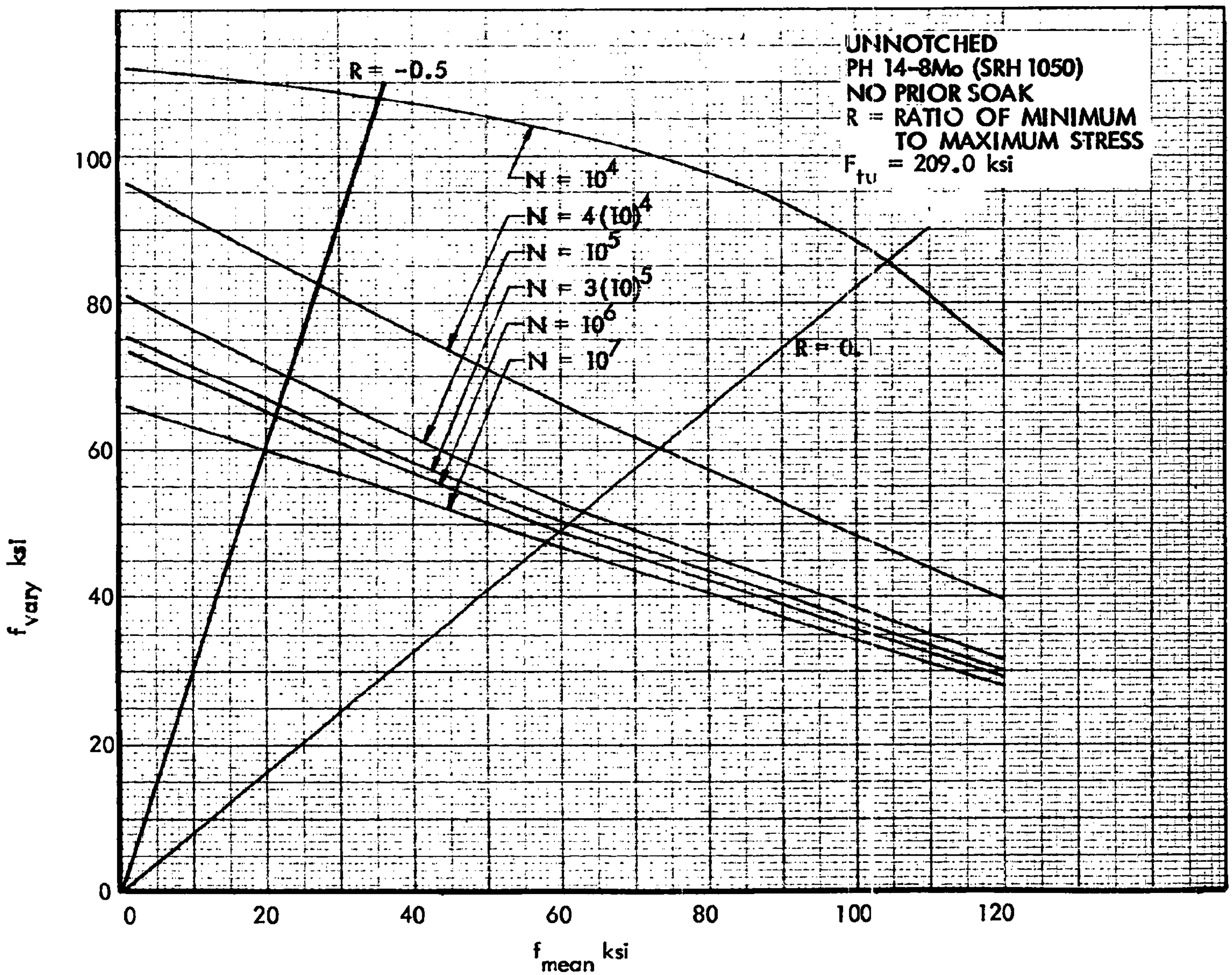


Figure 316. S-N Diagram at Room Temperature, Unnotched PH14-8Mo

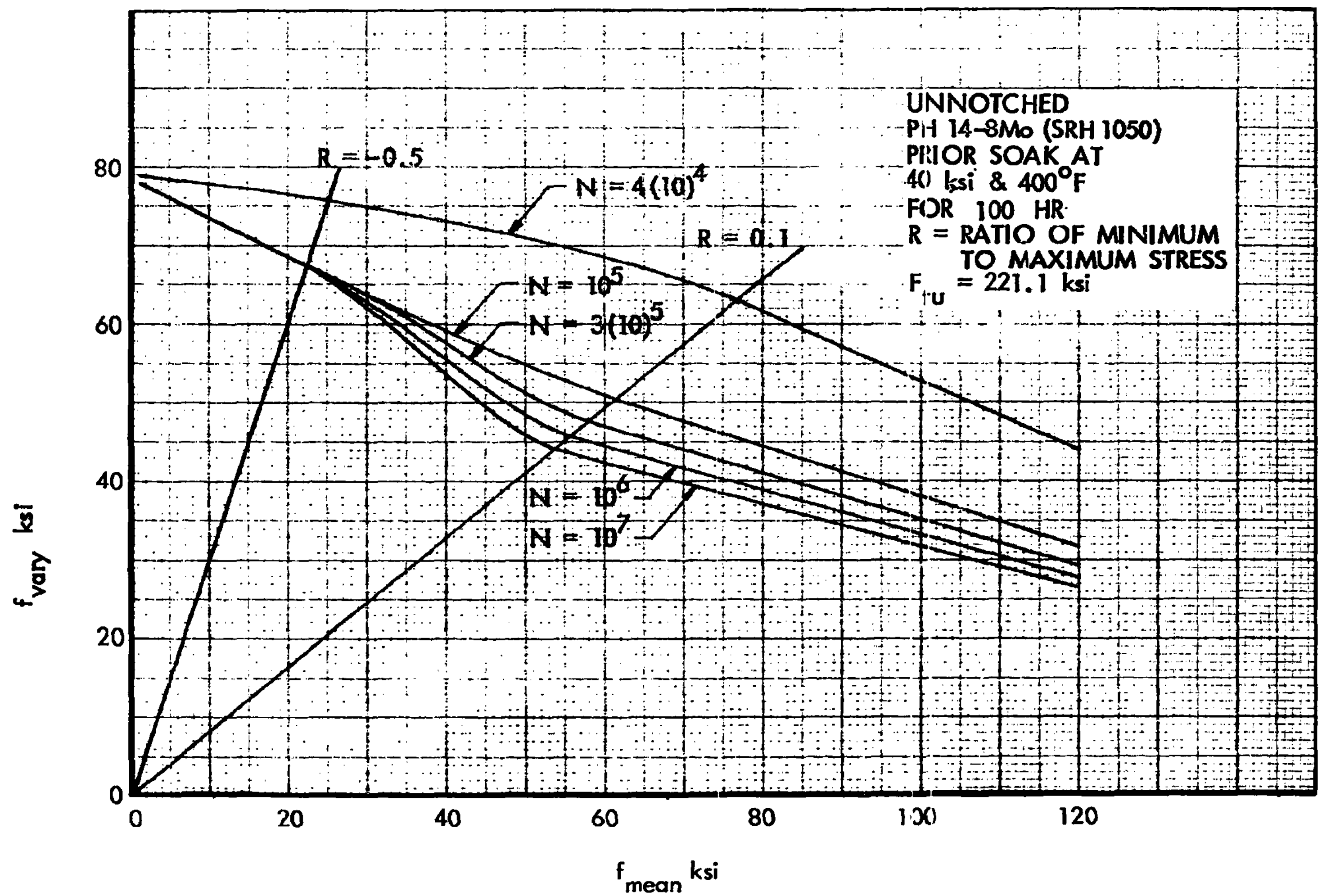


Figure 317. S-N Diagram at Room Temperature, Unnotched PH14-8Mo

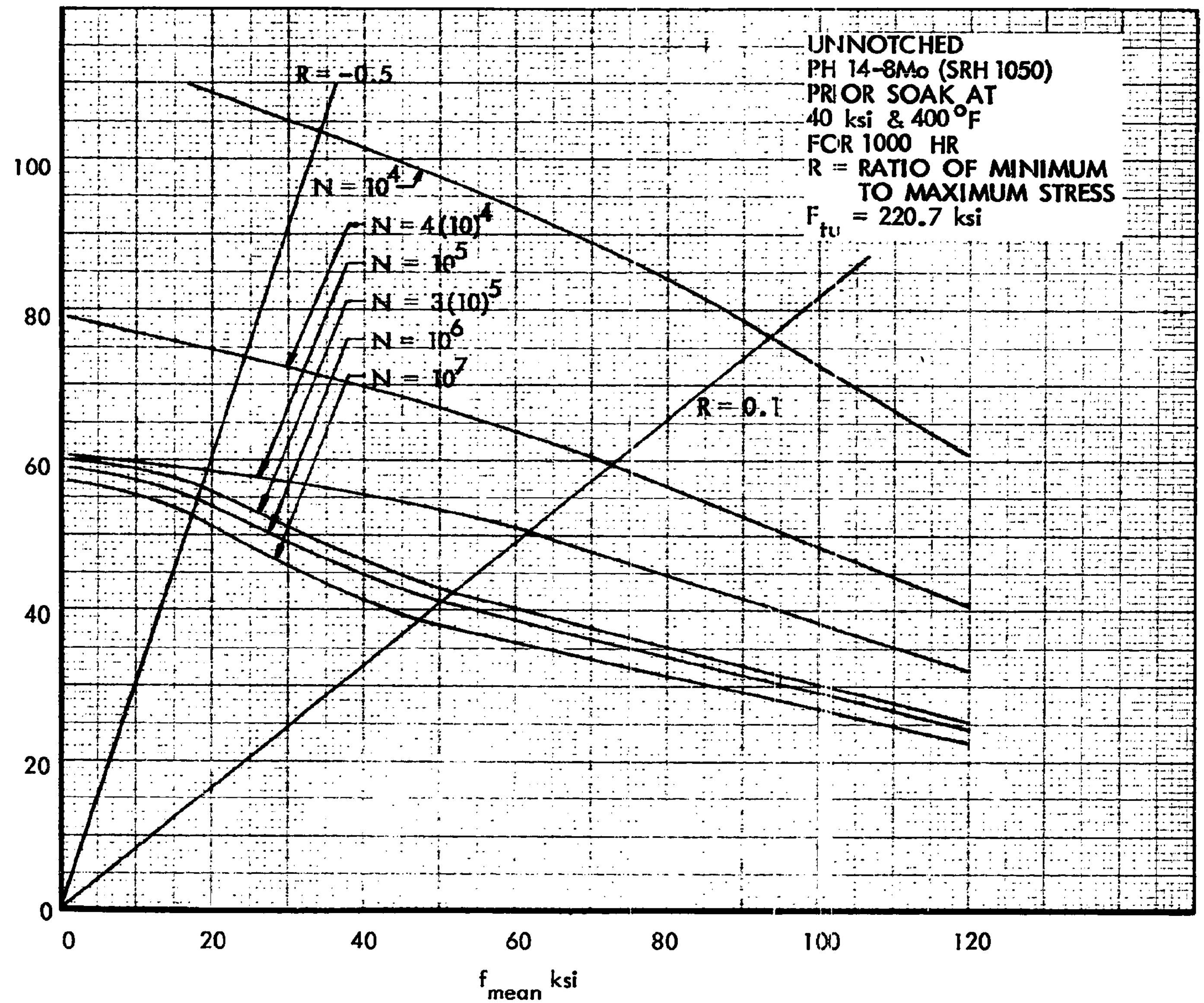


Figure 318. S-N Diagram at Room Temperature, Unnotched PH14-8Mo

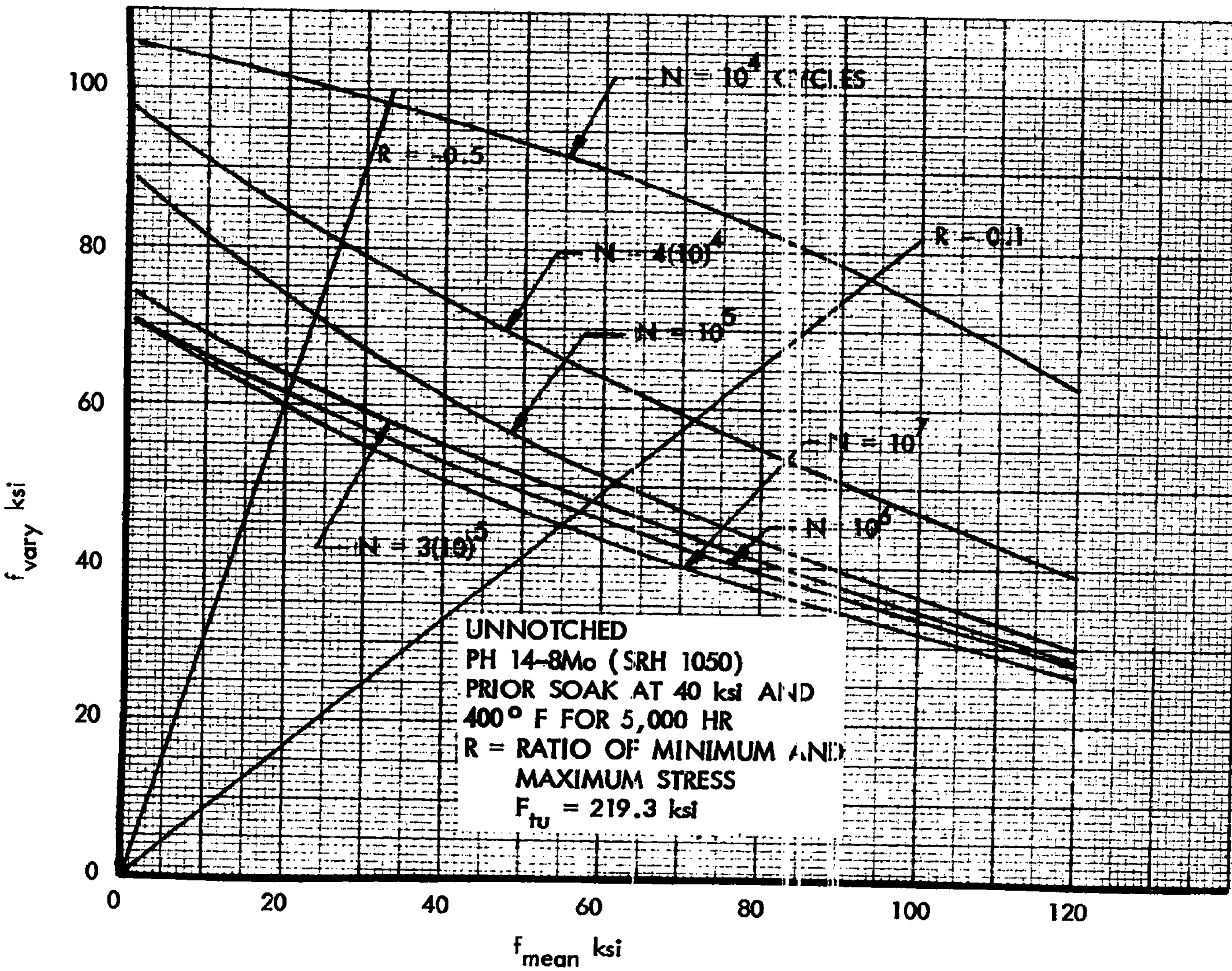


Figure 319. S-N Diagram at Room Temperature, Unnotched PH14-8Mo

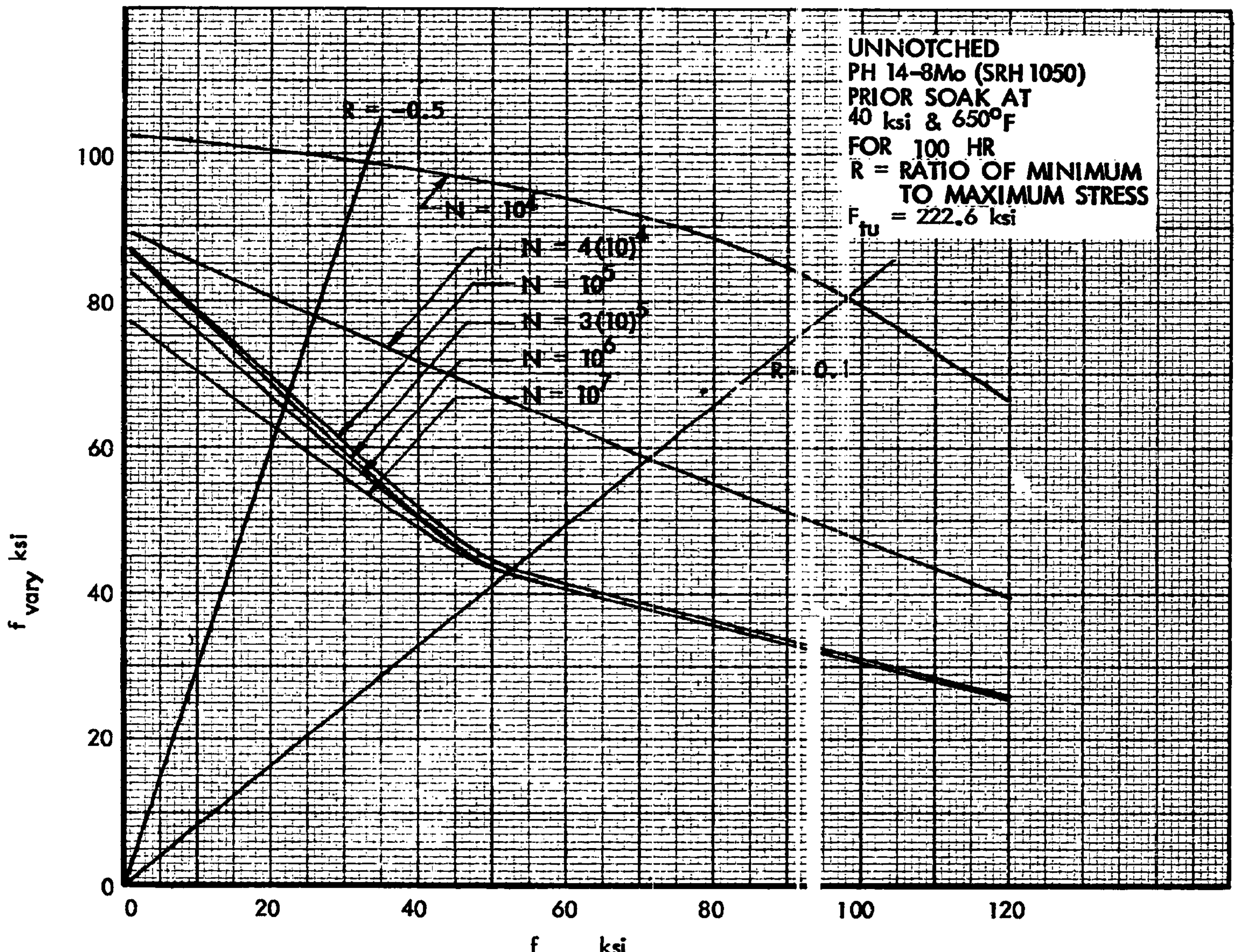


Figure 320. S-N Diagram at Room Temperatu , Unnotchea PH14-8Mo

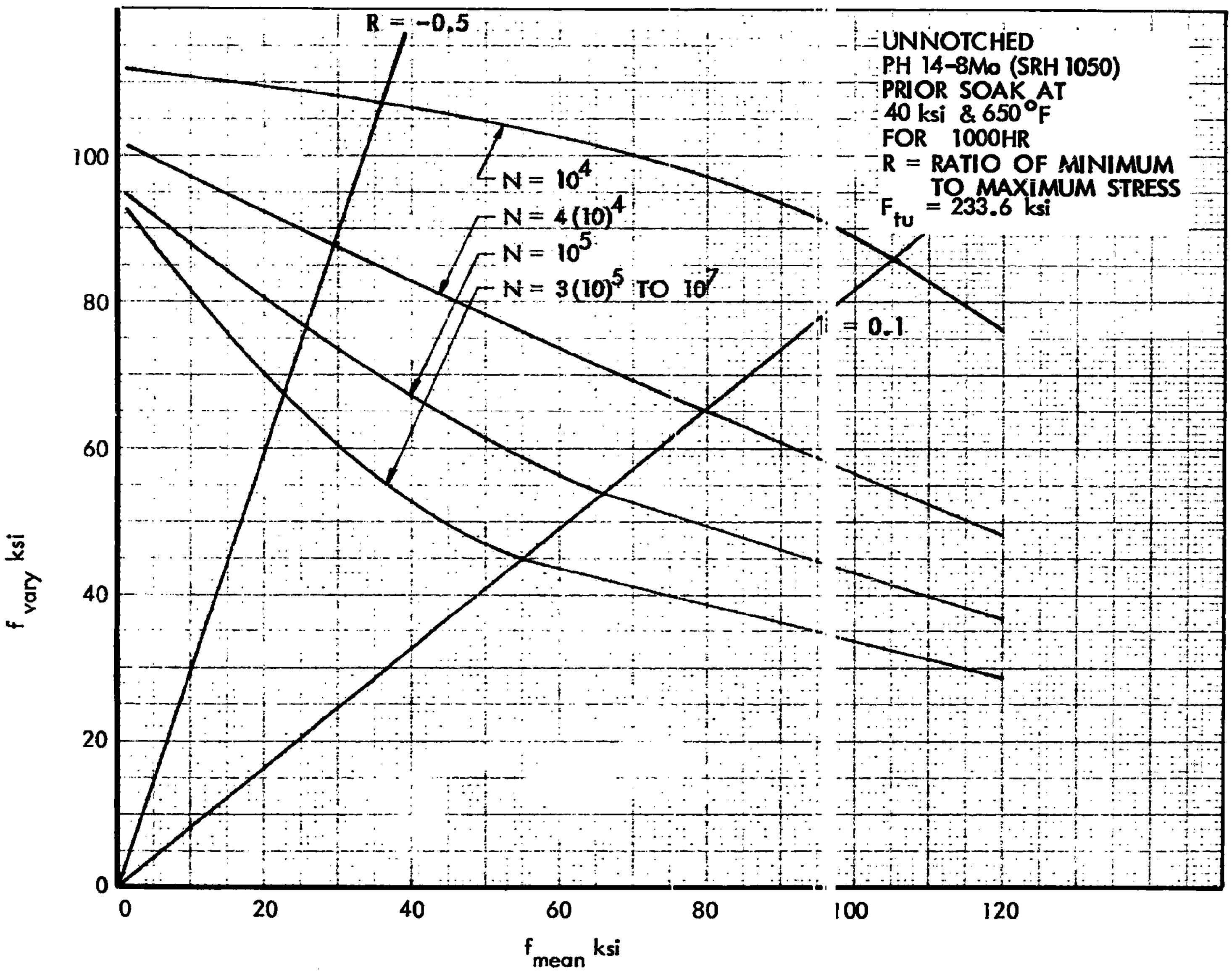


Figure 321. S-N Diagram at Room Temperature, Unnotched PH14-8Mo

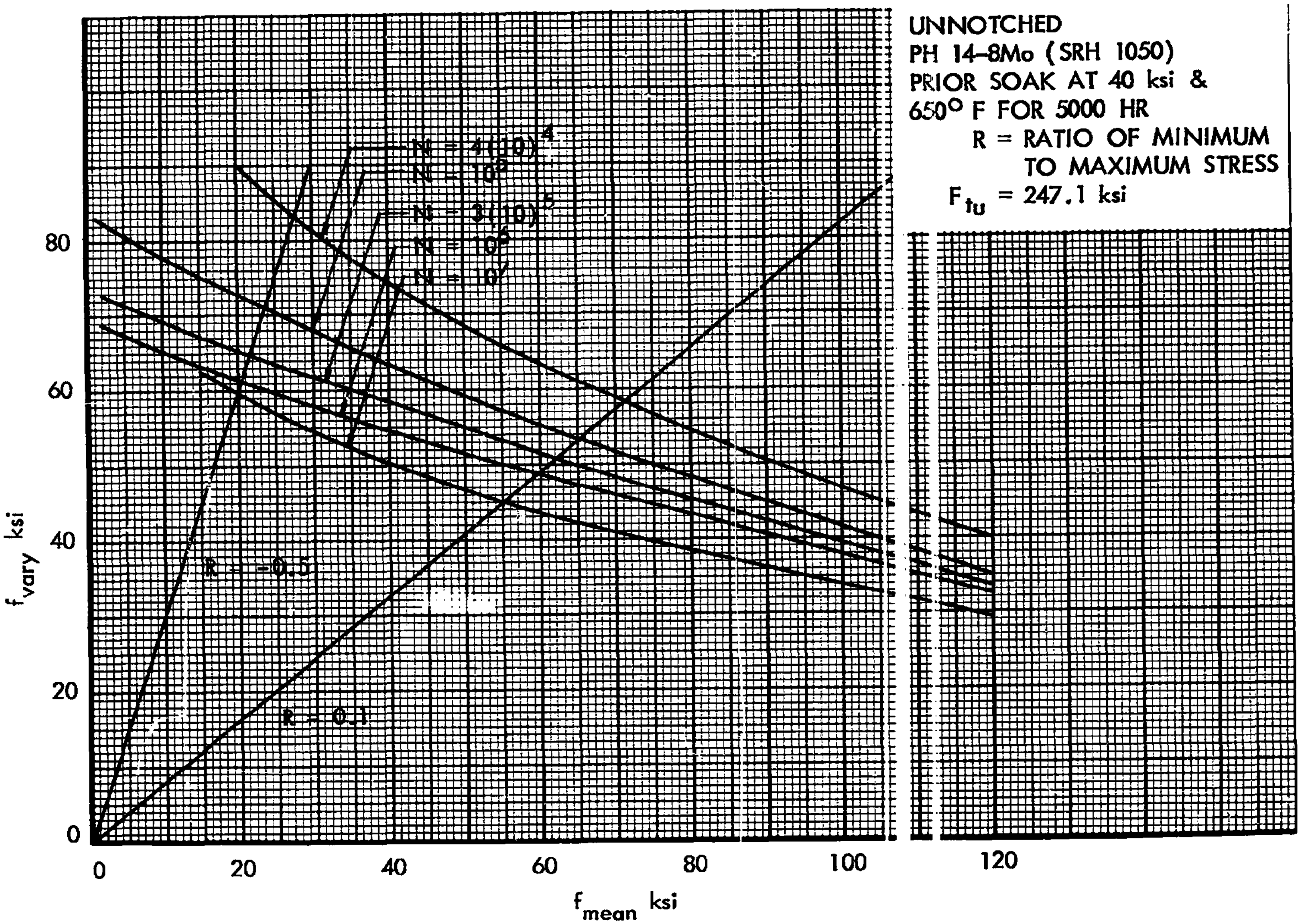


Figure 322. S-N Diagram at Room Temperature Unnotched PH14-8Mo

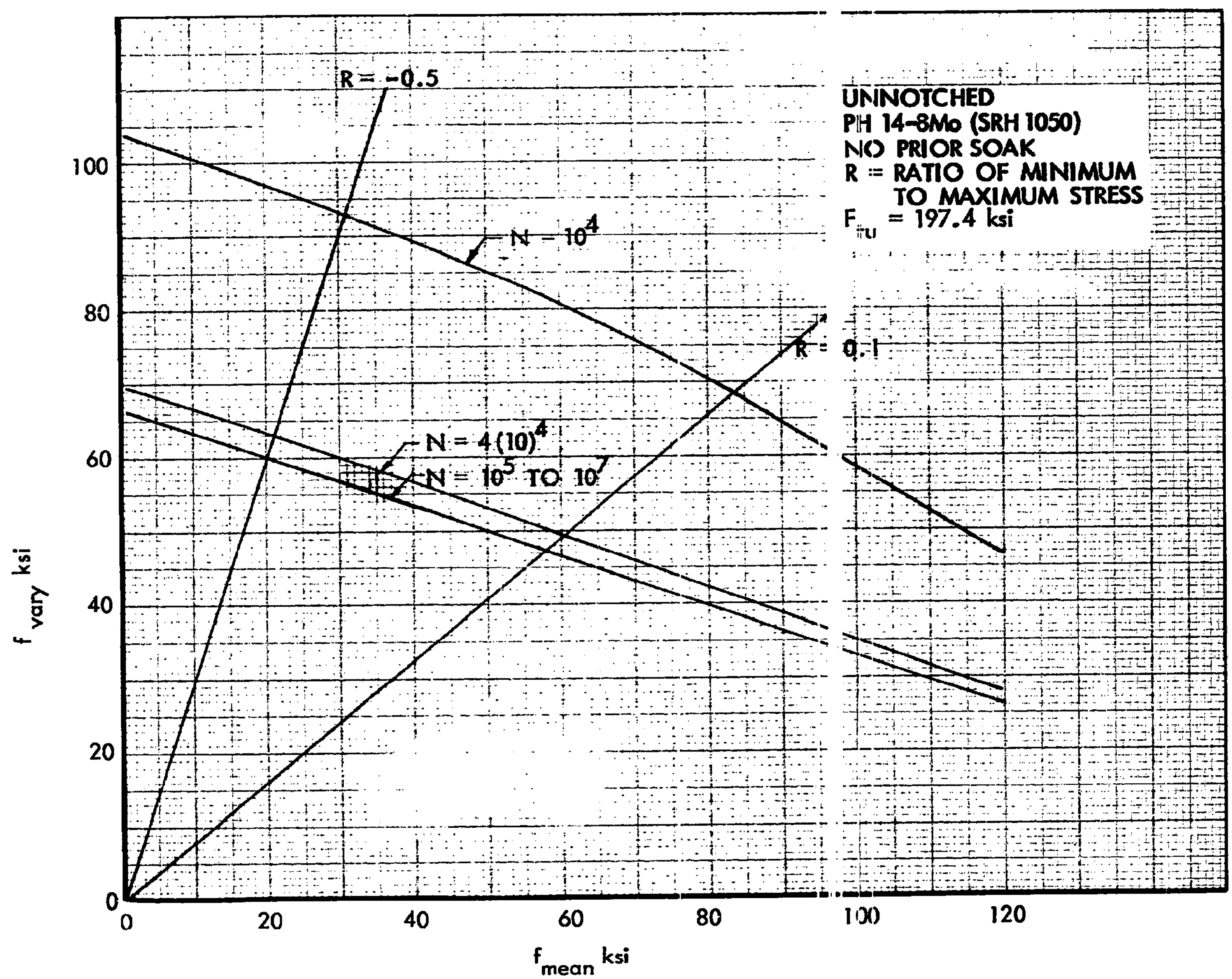


Figure 323. S-N Diagram at 400°F, Unnotched PH14-8Mo

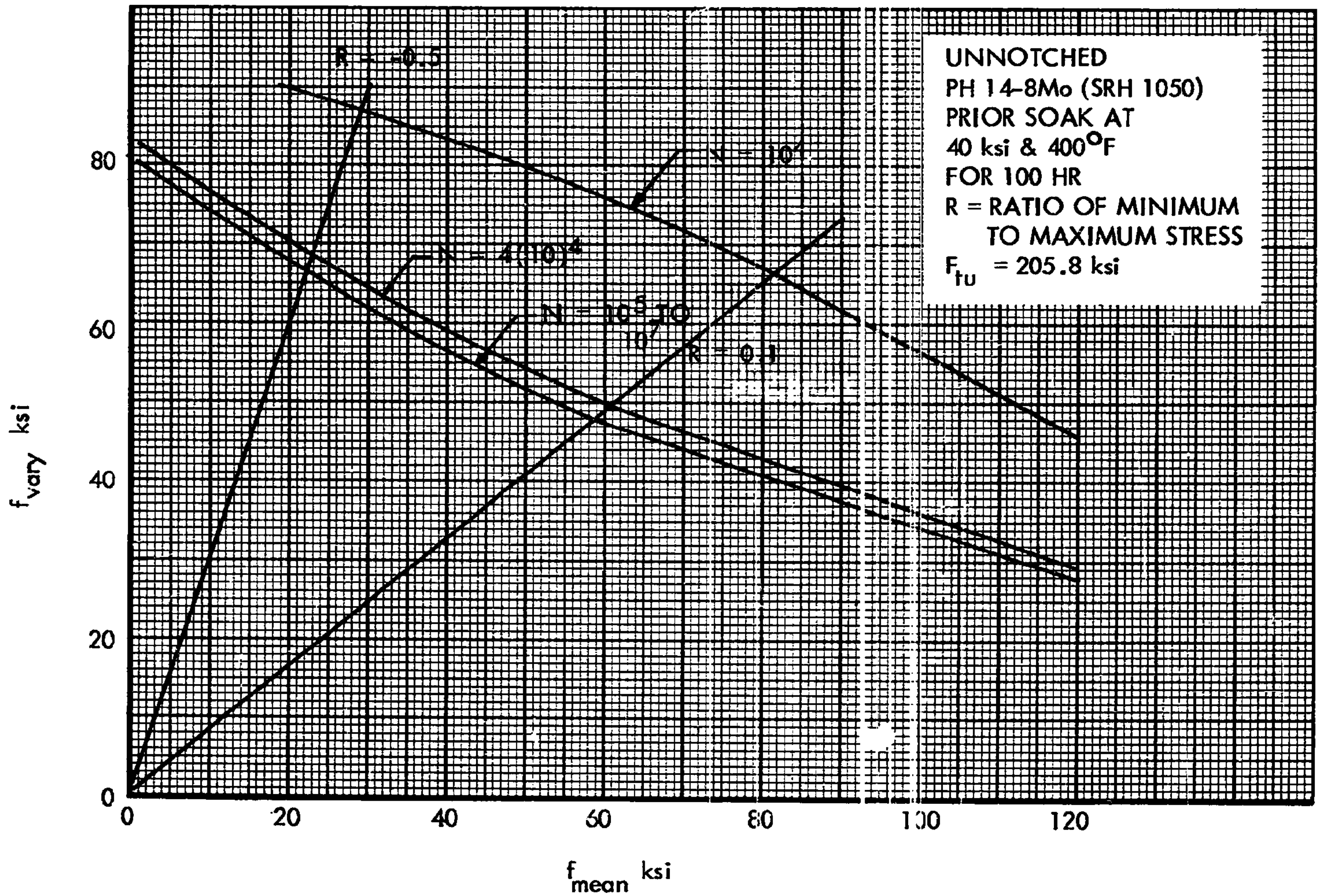


Figure 324. S-N Diagram at 400°F, Unnotched PH14-8Mo

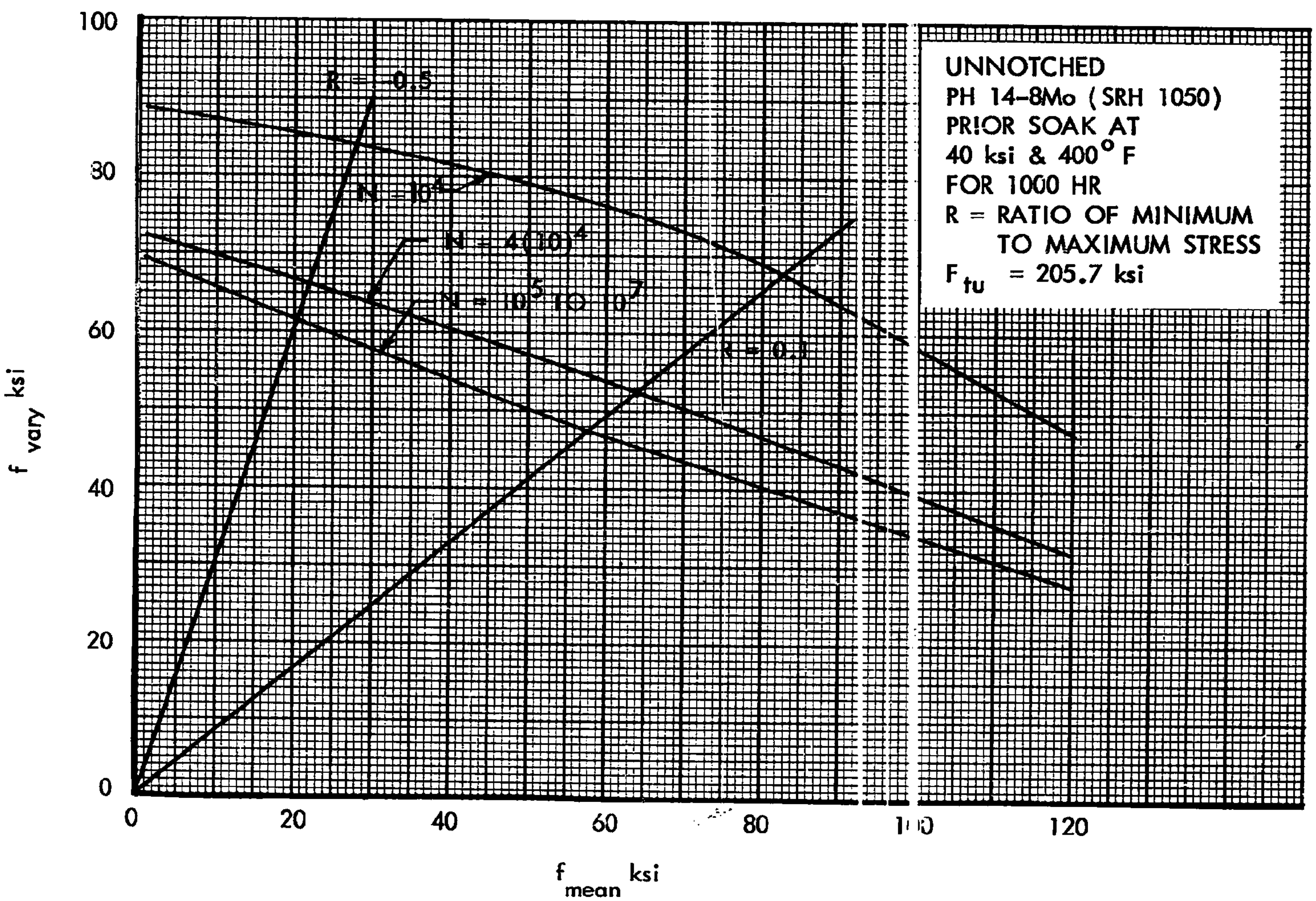


Figure 325. S-N Diagram at 400°F, Unnotched PH14-8Mo

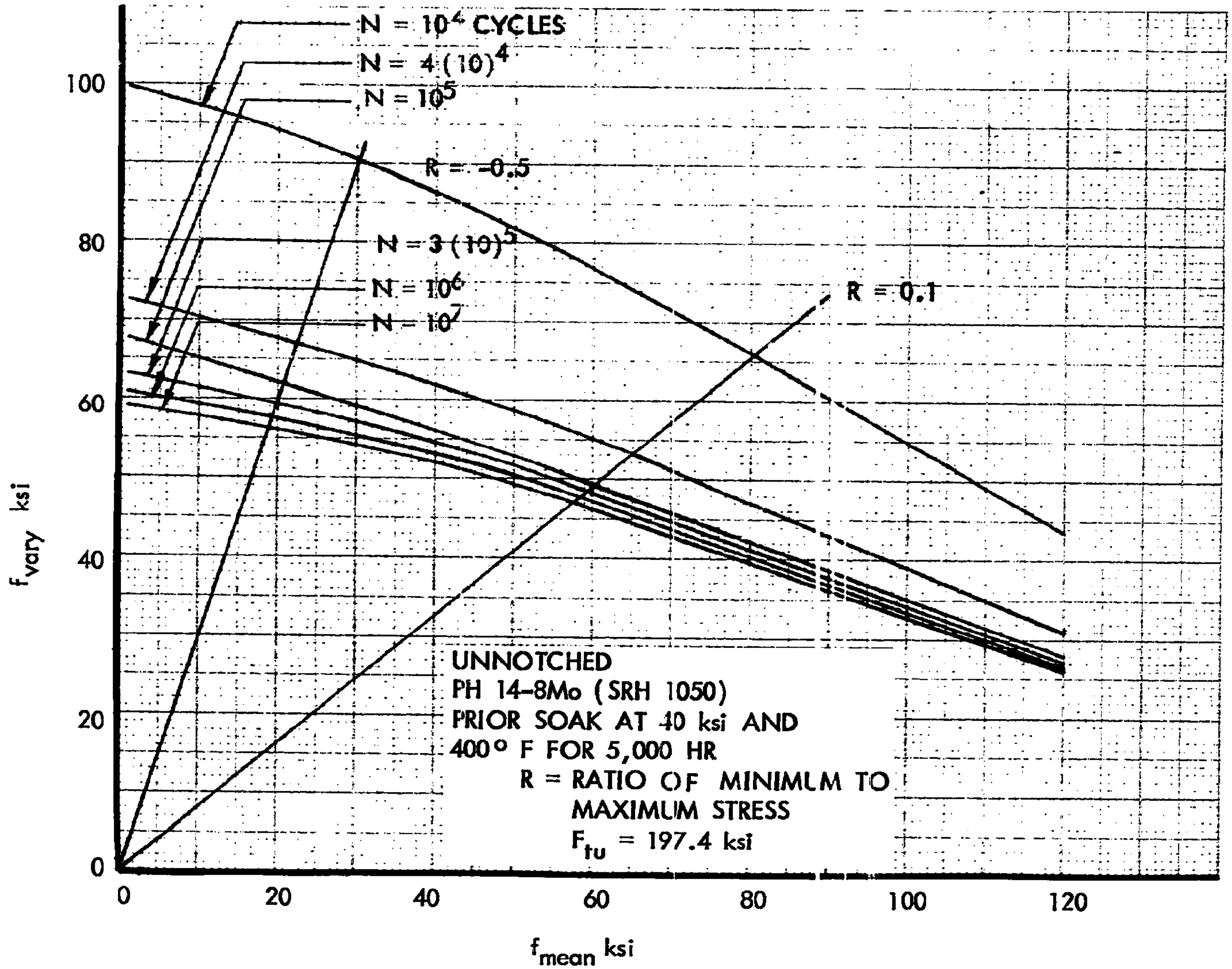


Figure 326. S-N Diagram at 400°F, Unnotched PH14-8Mo

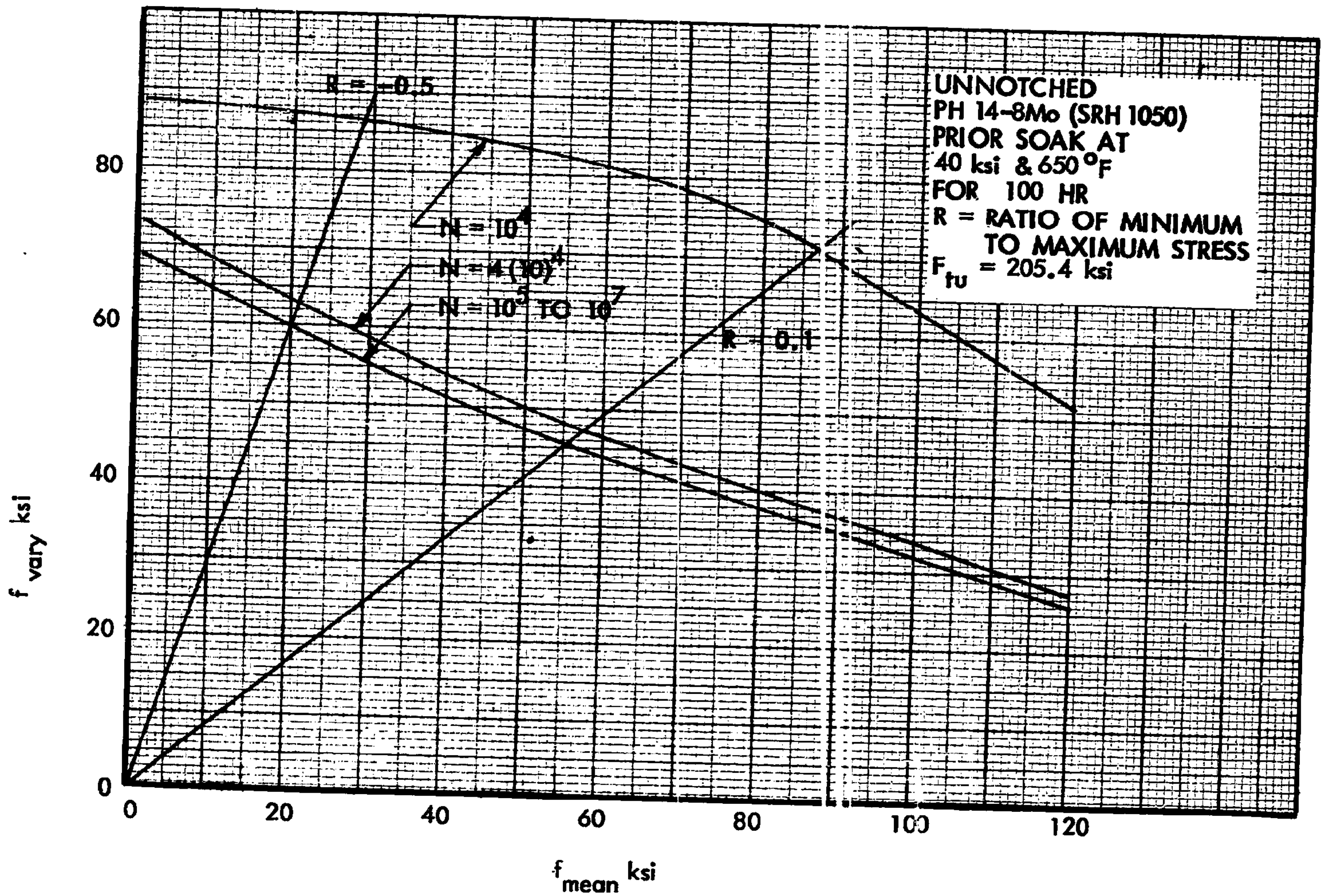


Figure 327. S-N Diagram at 400°F, Unnotched PH14-8Mo

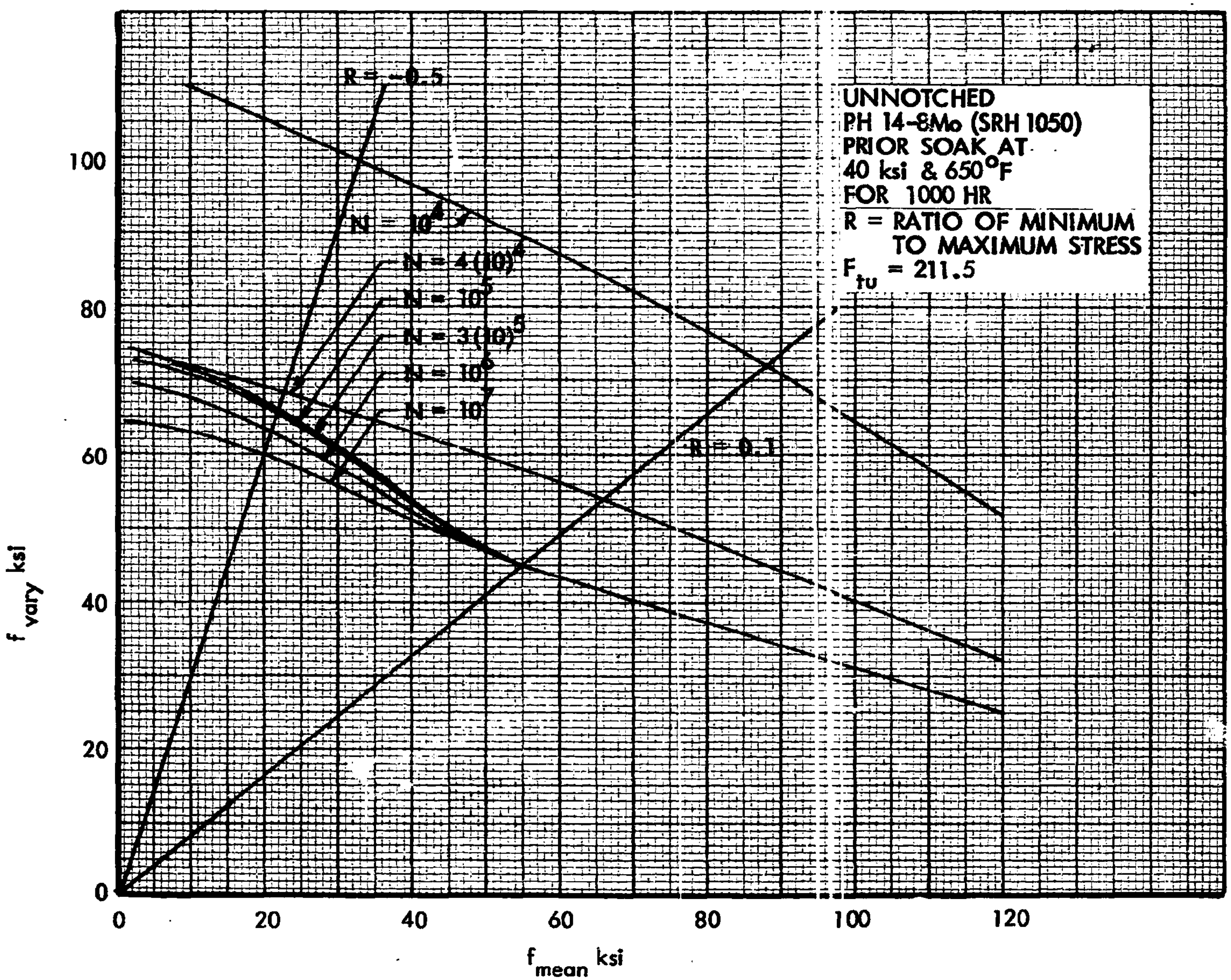


Figure 328. S-N Diagram at 400°F, Unnotched PH14-8Mo

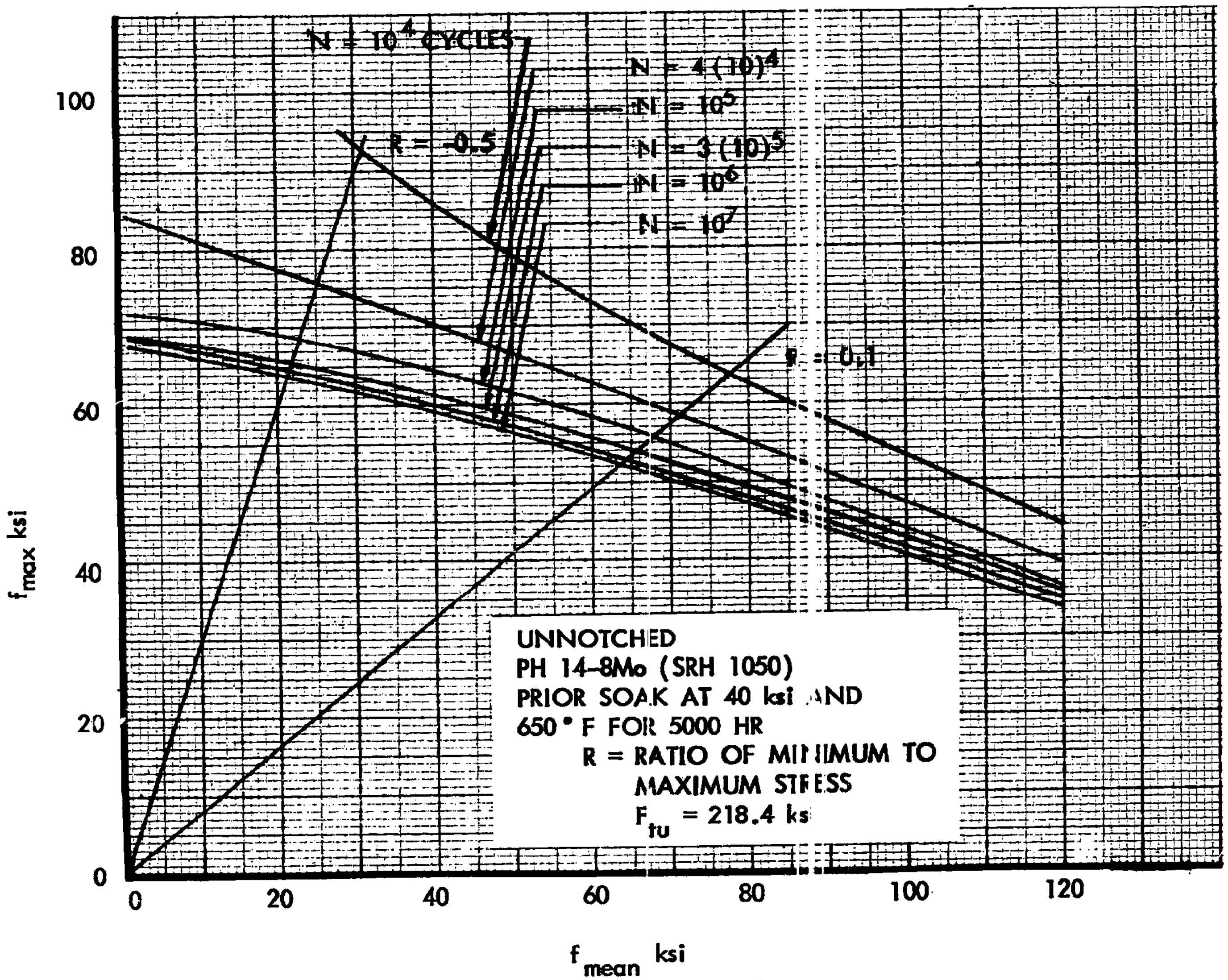


Figure 329. S-N Diagram at 400°F, Unnotched PH14-8Mo

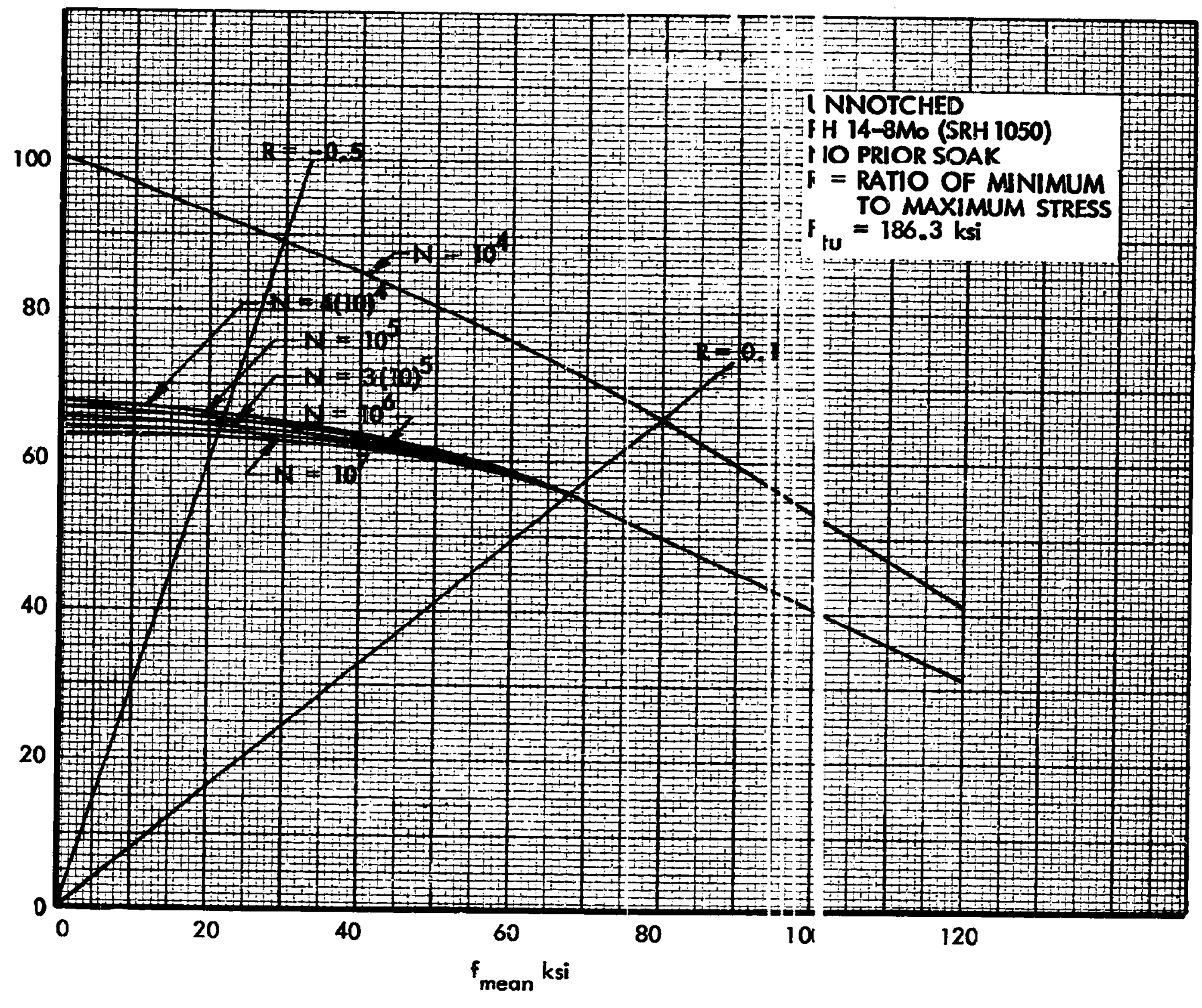


Figure 330. S-N Diagram at 650°F, Unnotched PH14-8Mo

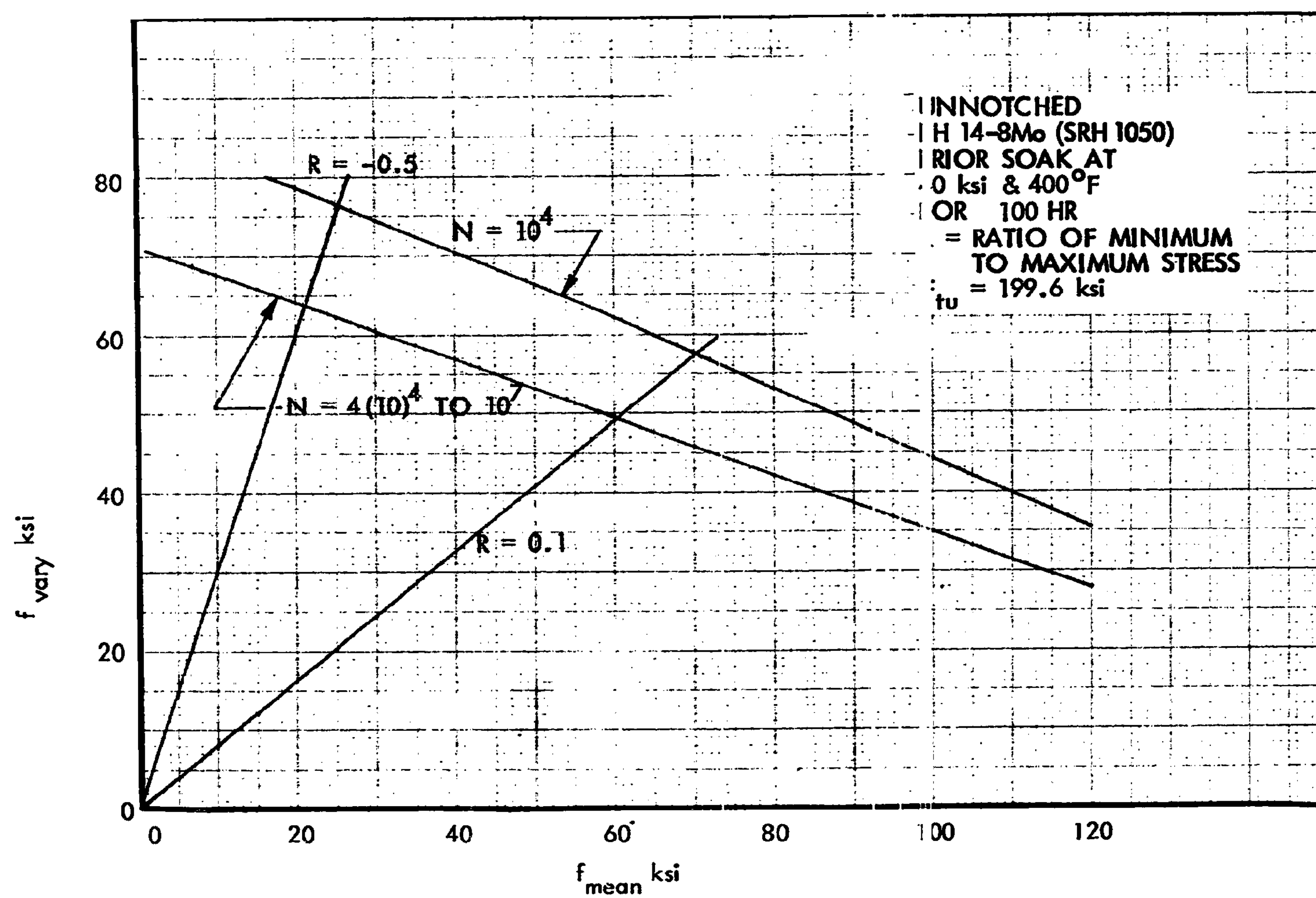


Figure 331. S-N Diagram at 650°F, Unnotched PH14-8Mo

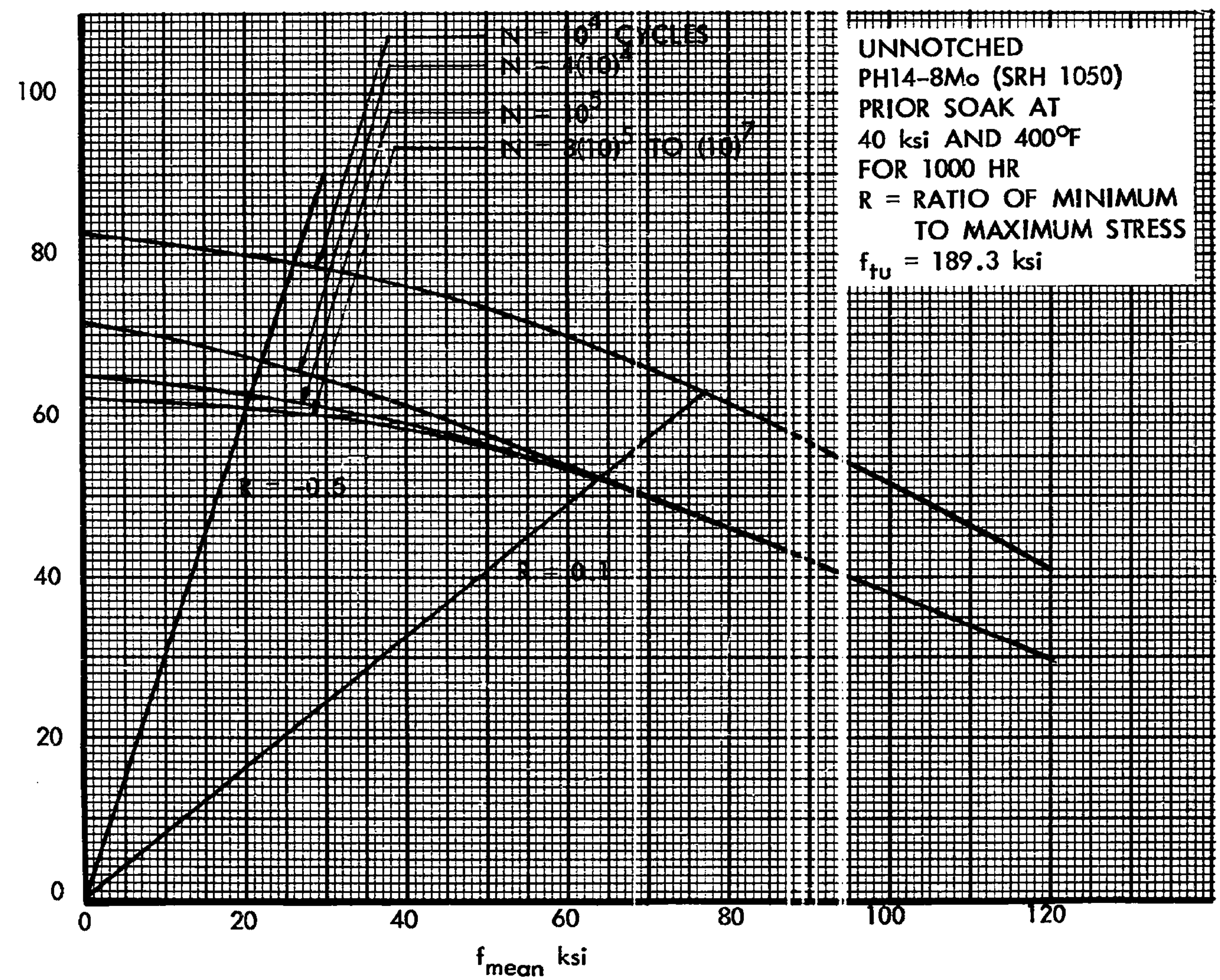


Figure 332. S-N Diagram at 650°F, Unnotched PH14-8Mo

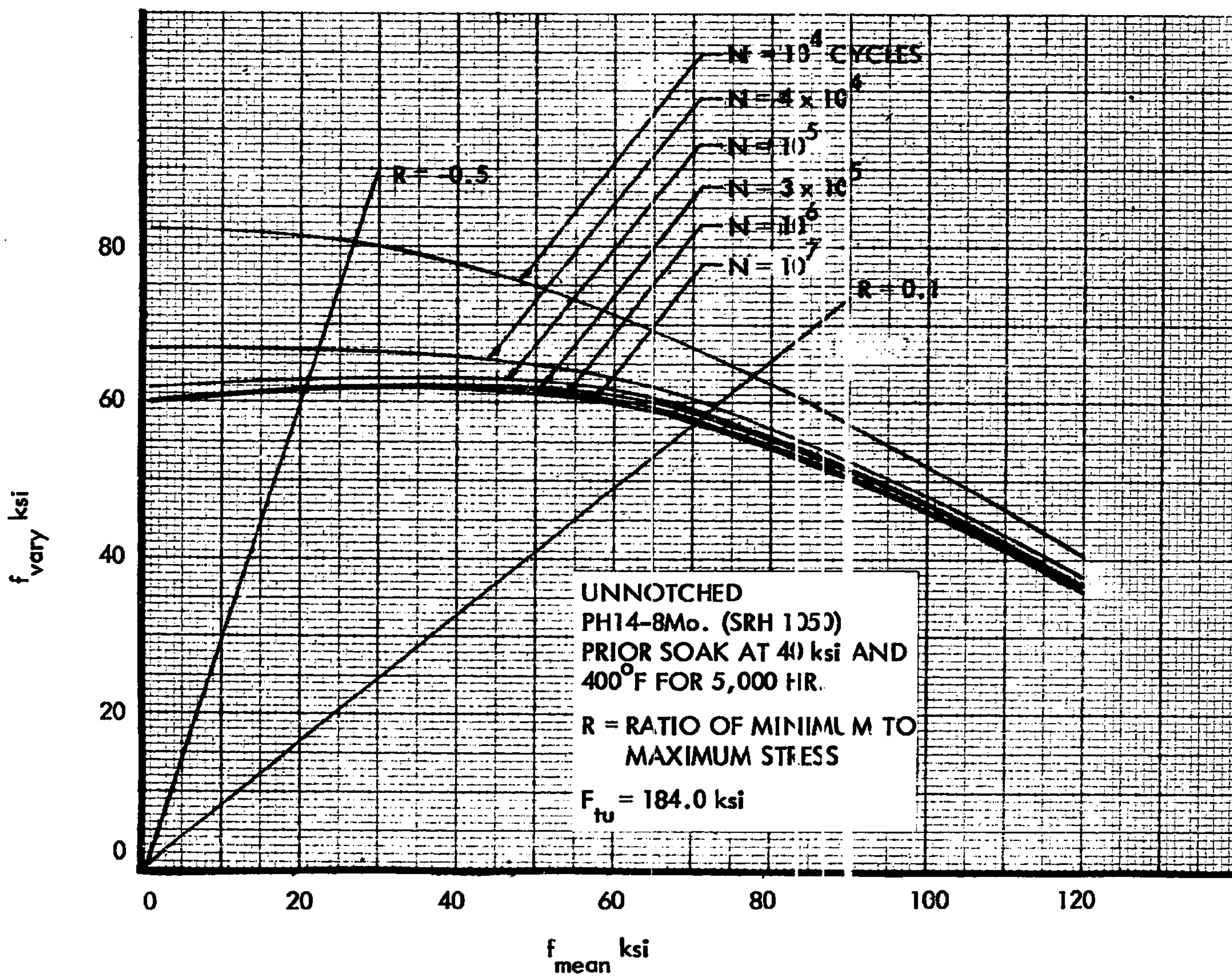


Figure 333. S-N Diagram at 650°F, Unnotched PH14-8Mo

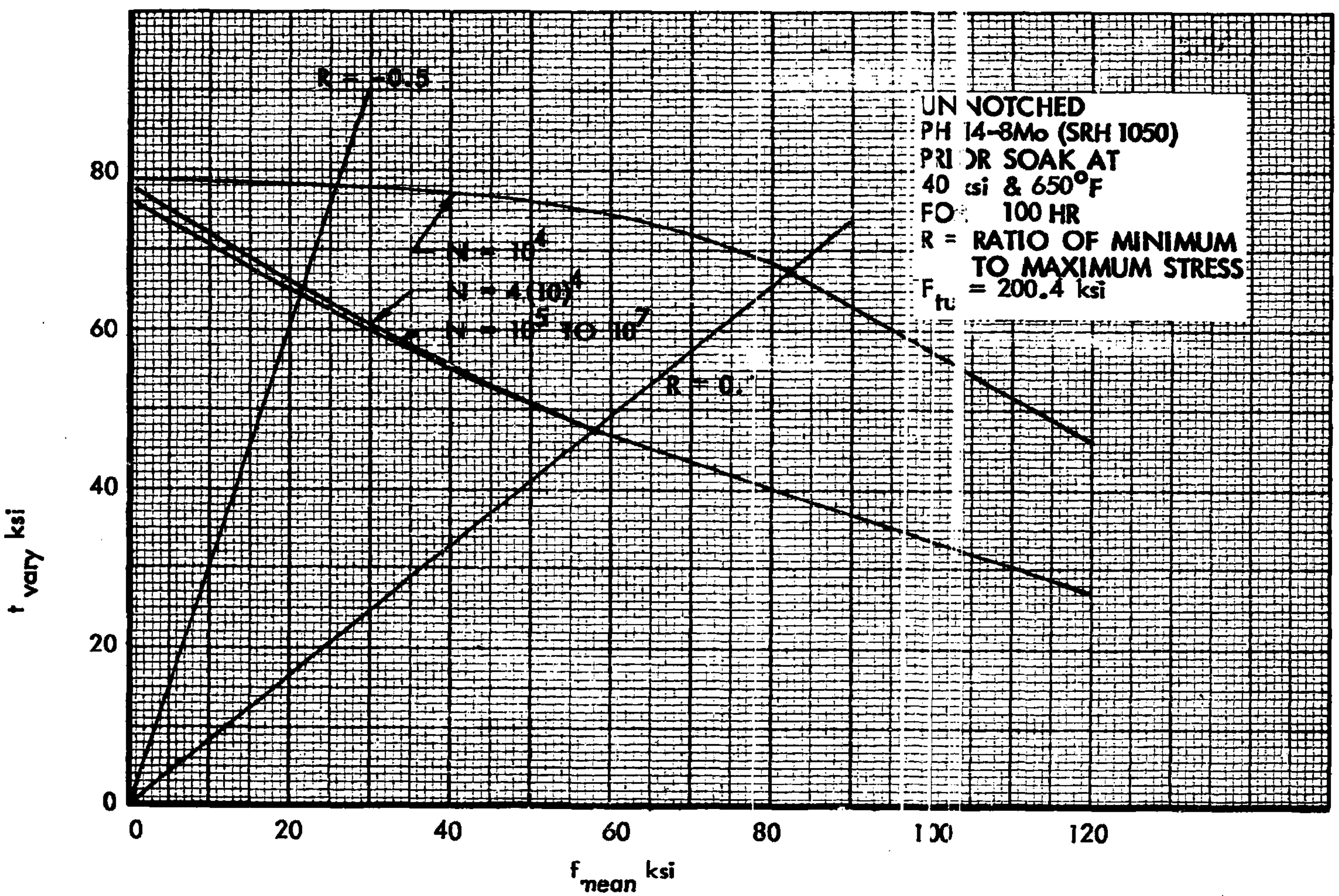


Figure 334. S-N Diagram at 650°F, Unnotched PH14-8Mo

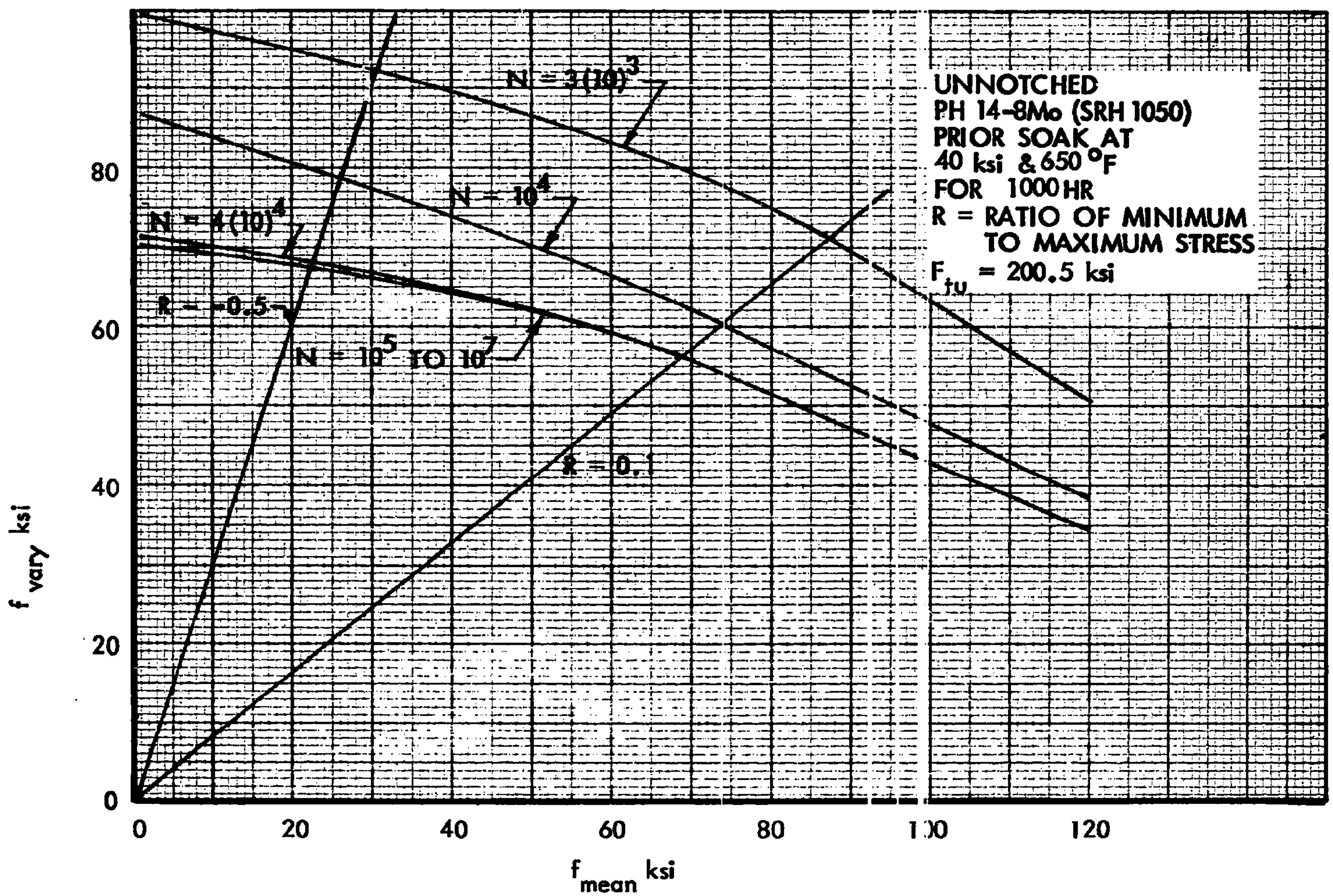


Figure 335. S-N Diagram at 650°F, Unnotched PH14-8Mo

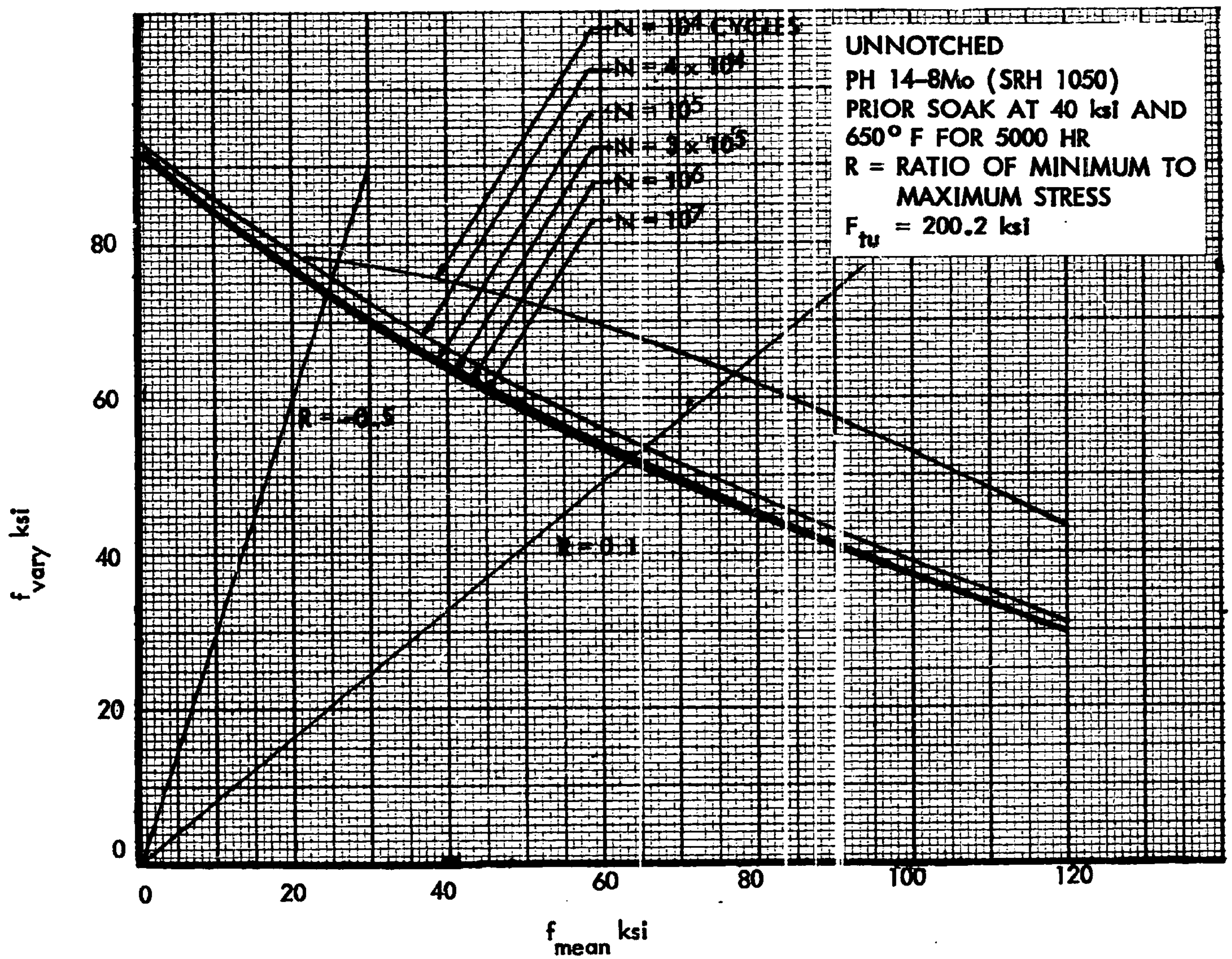


Figure 336. S-N Diagram at 650°F, Unnotched PH14-8Mo

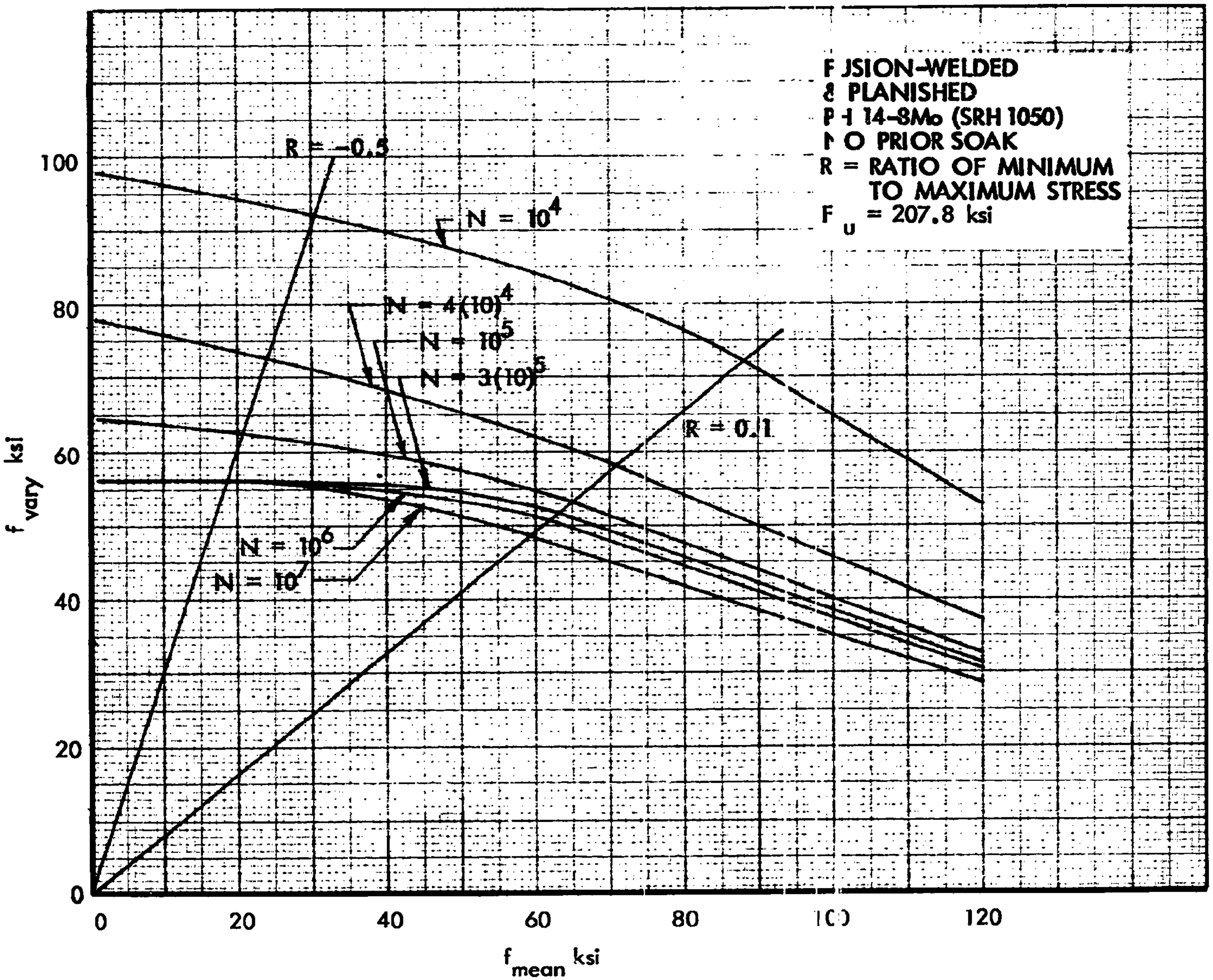


Figure 337. S-N Diagram at Room Temperature, Fı sion-Welded PH14-8Mo

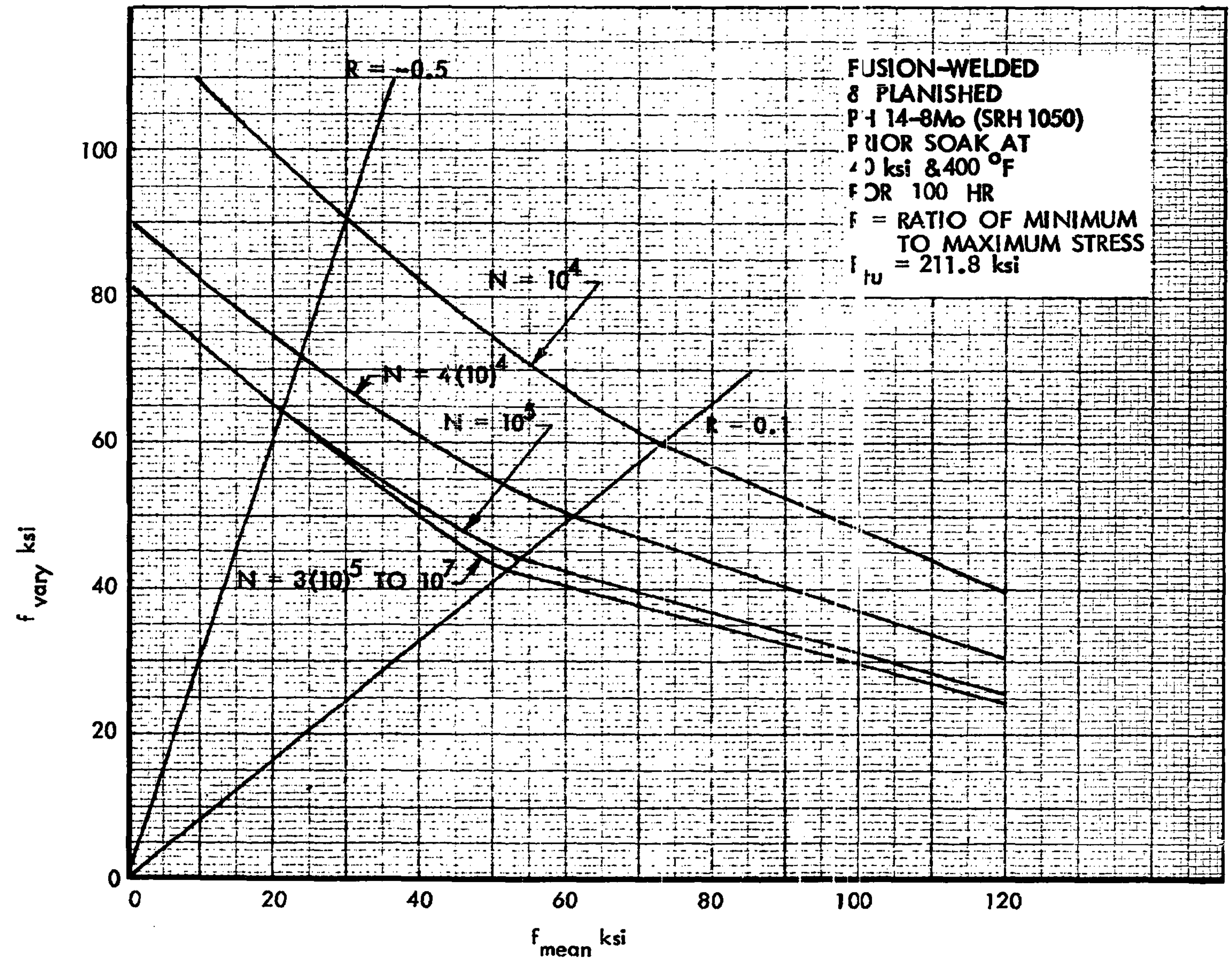


Figure 338. S-N Diagram at Room Temperature, Fusion-Welded PH14-8Mo

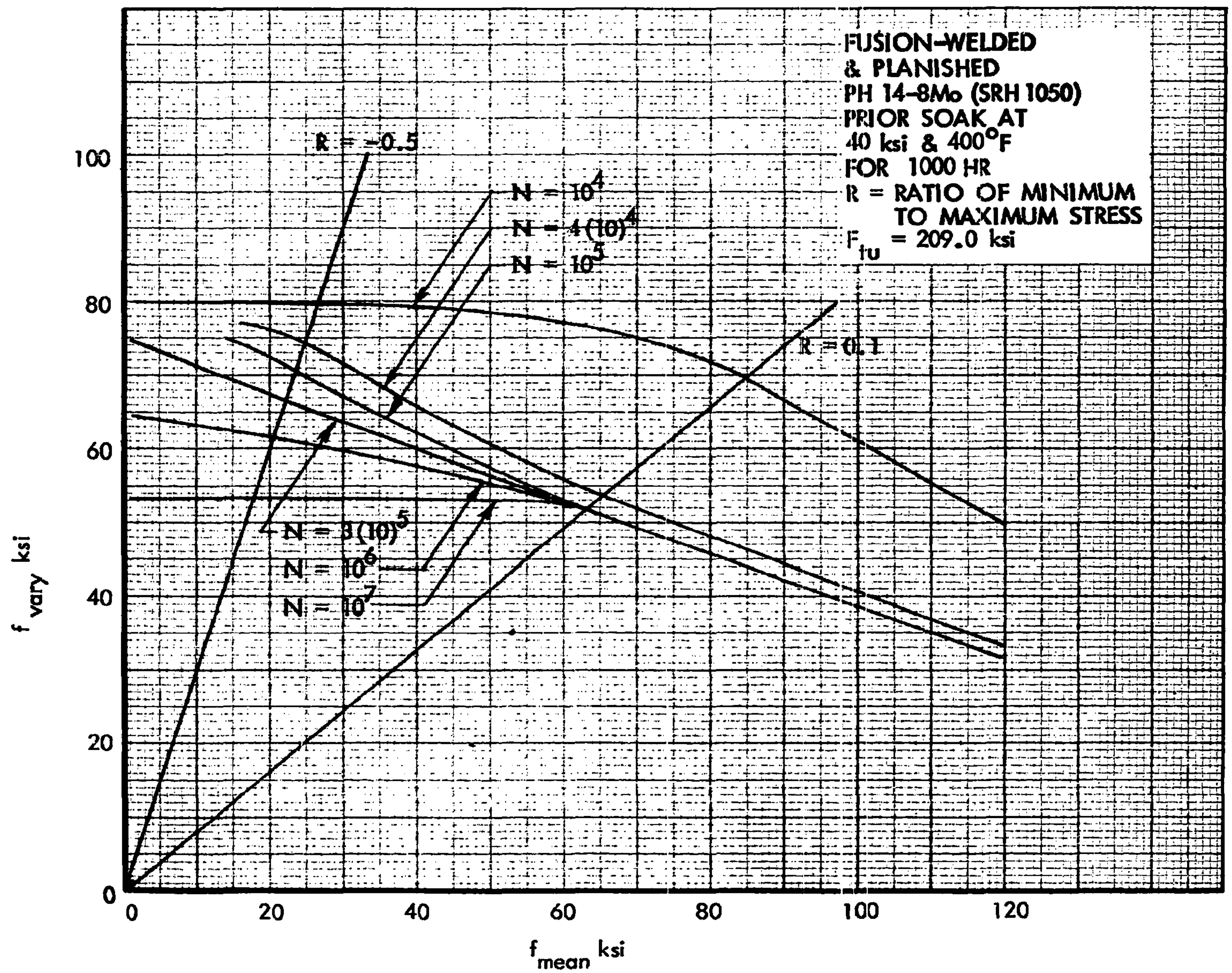


Figure 339. S-N Diagram at Room Temperature, Fusion-Welded PH14-8Mo

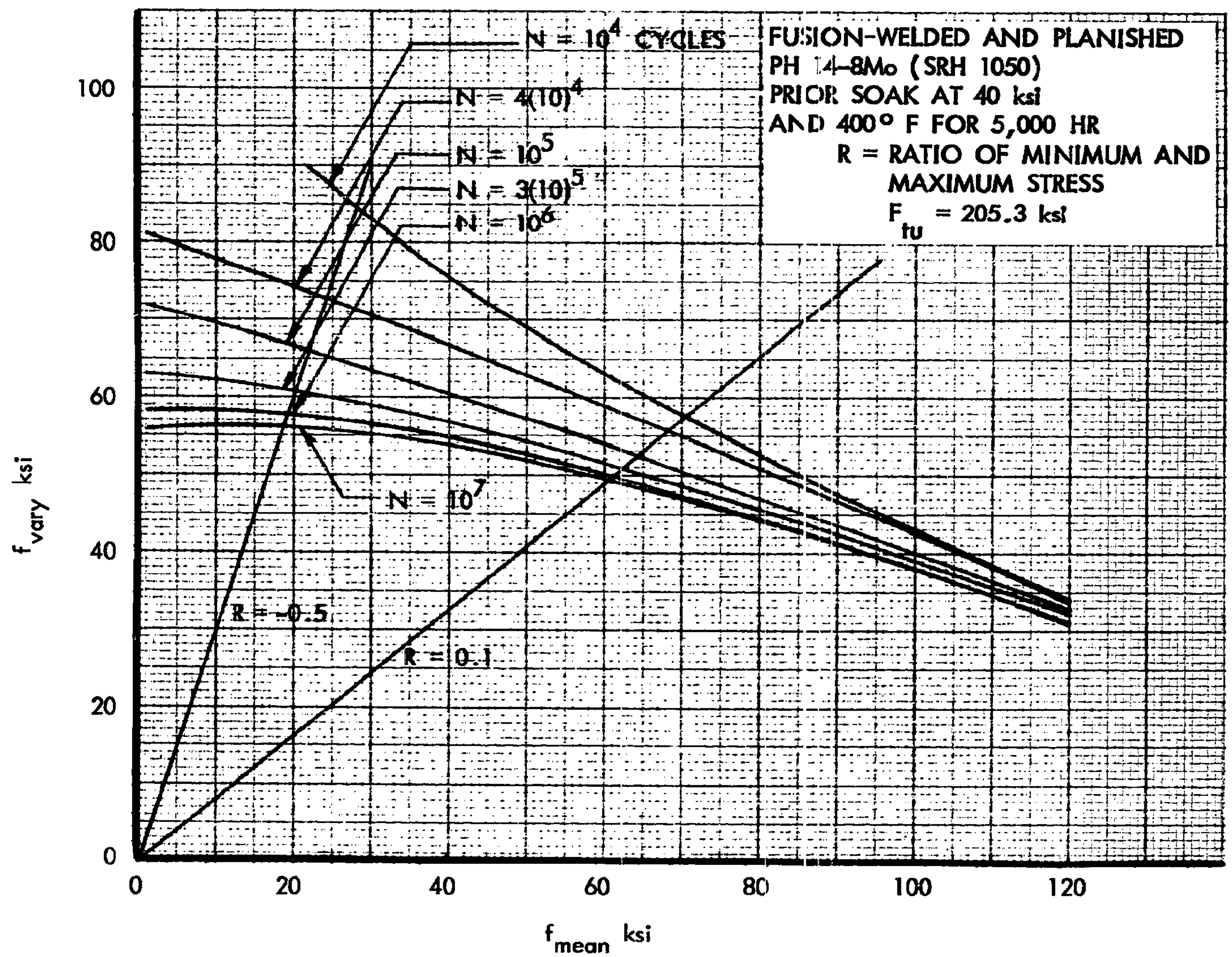


Figure 340. S-N Diagram at Room Temperature, Fusion-Welded PH14-8Mo

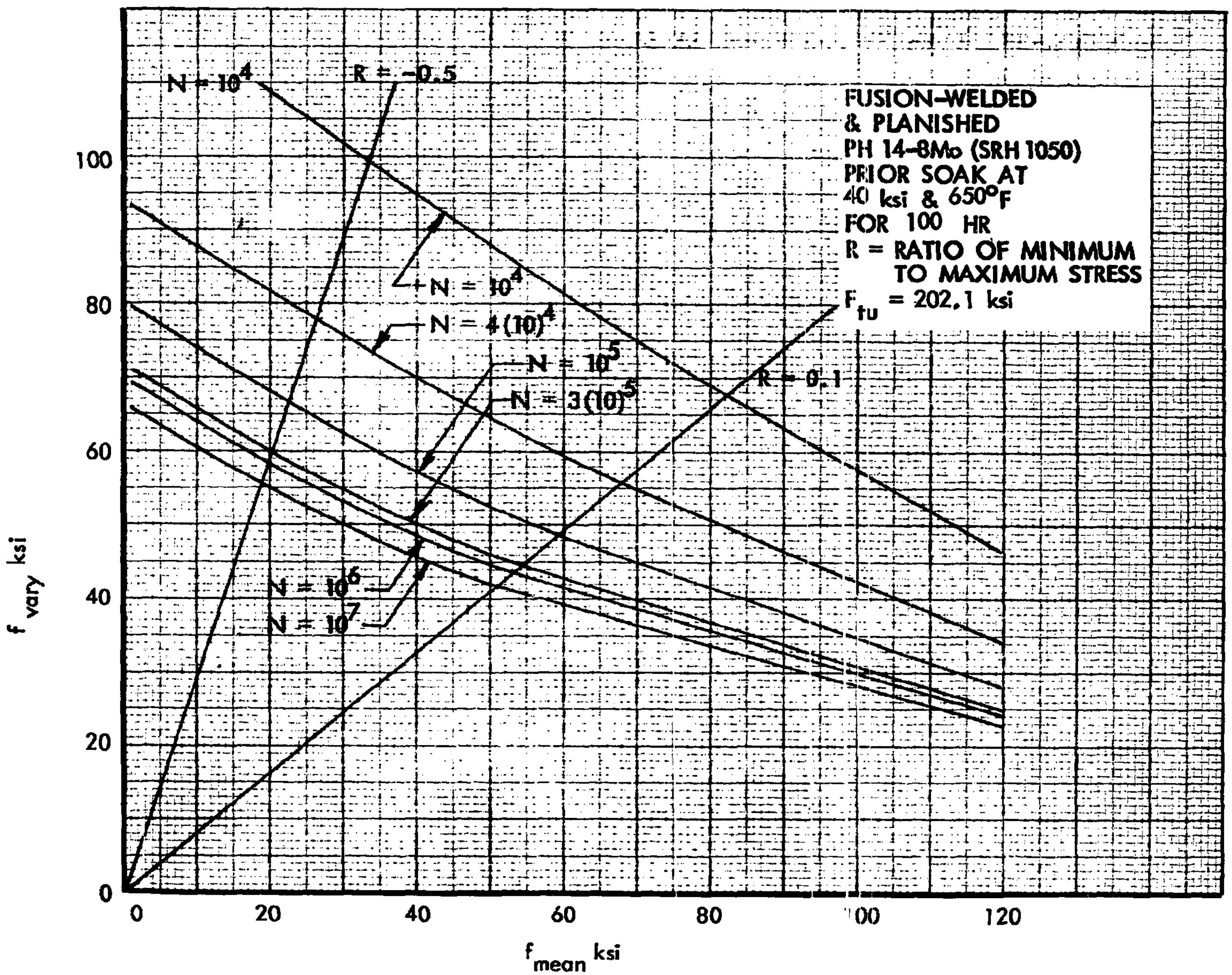


Figure 341. S-N Diagram at Room Temperature, Fusion-Welded PH14-8Mo

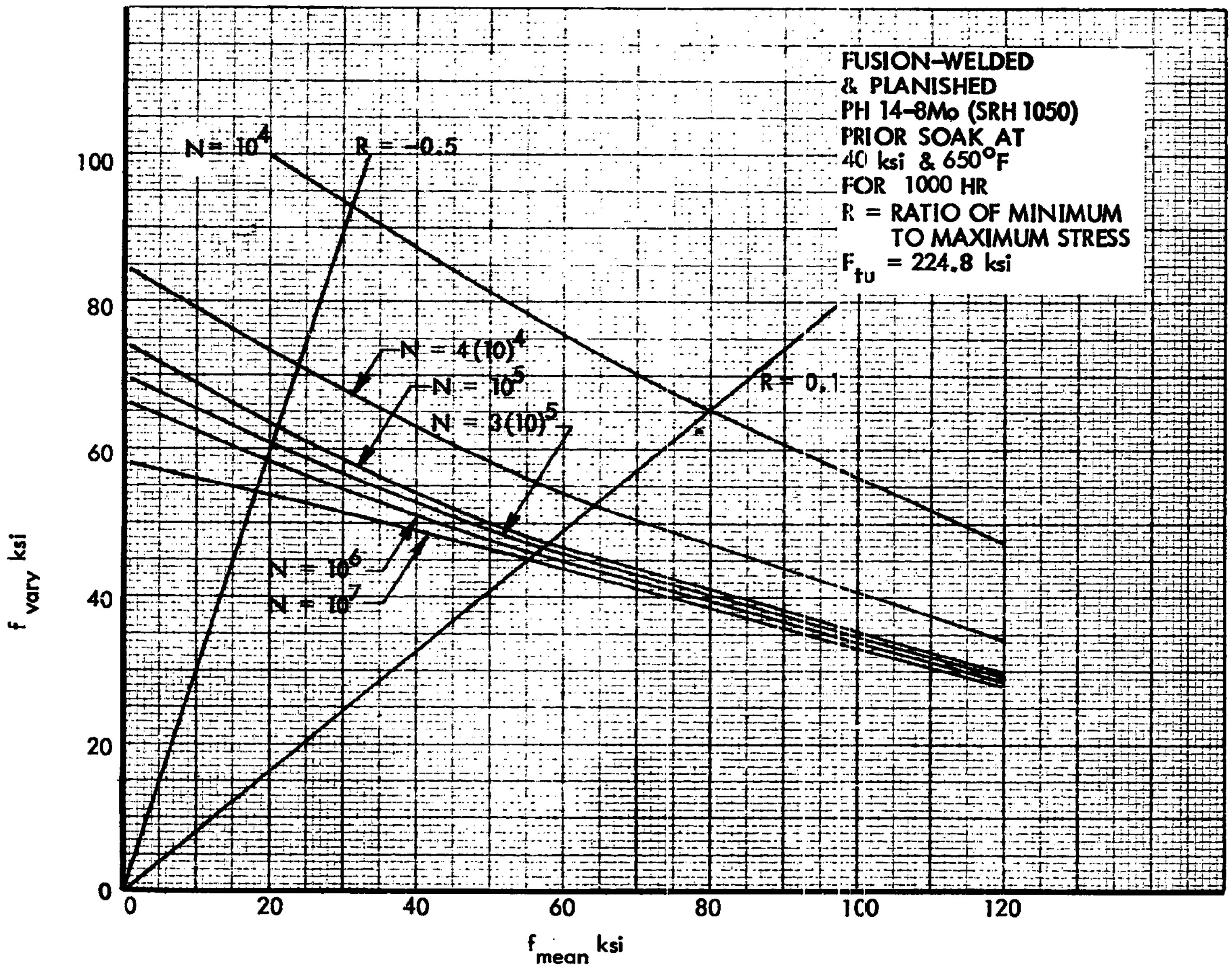


Figure 342. S-N Diagram at Room Temperature, Fusion-Welded PH14-8Mo

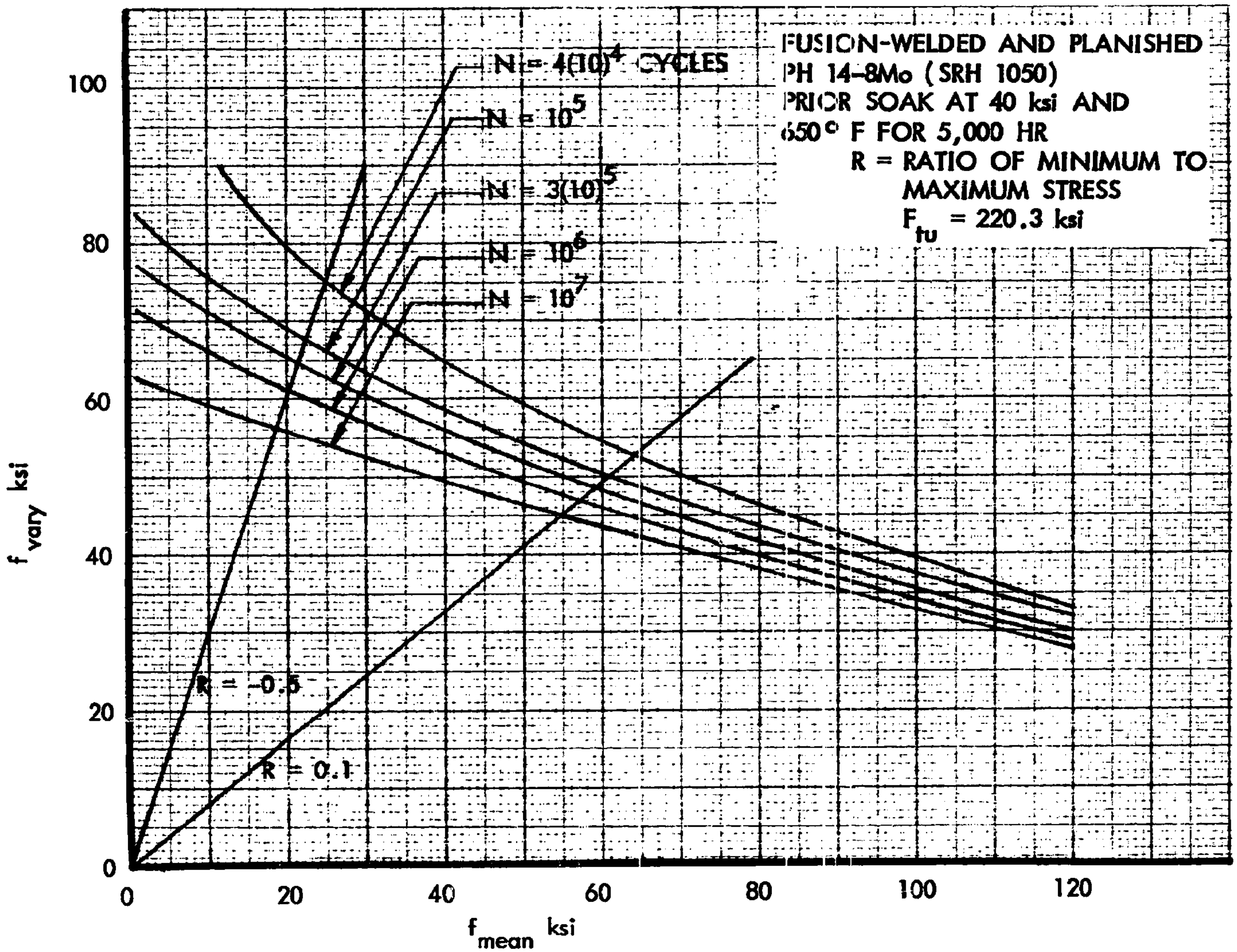


Figure 343. S-N Diagram at Room Temperature, Fusion-Welded PH14-8Mo

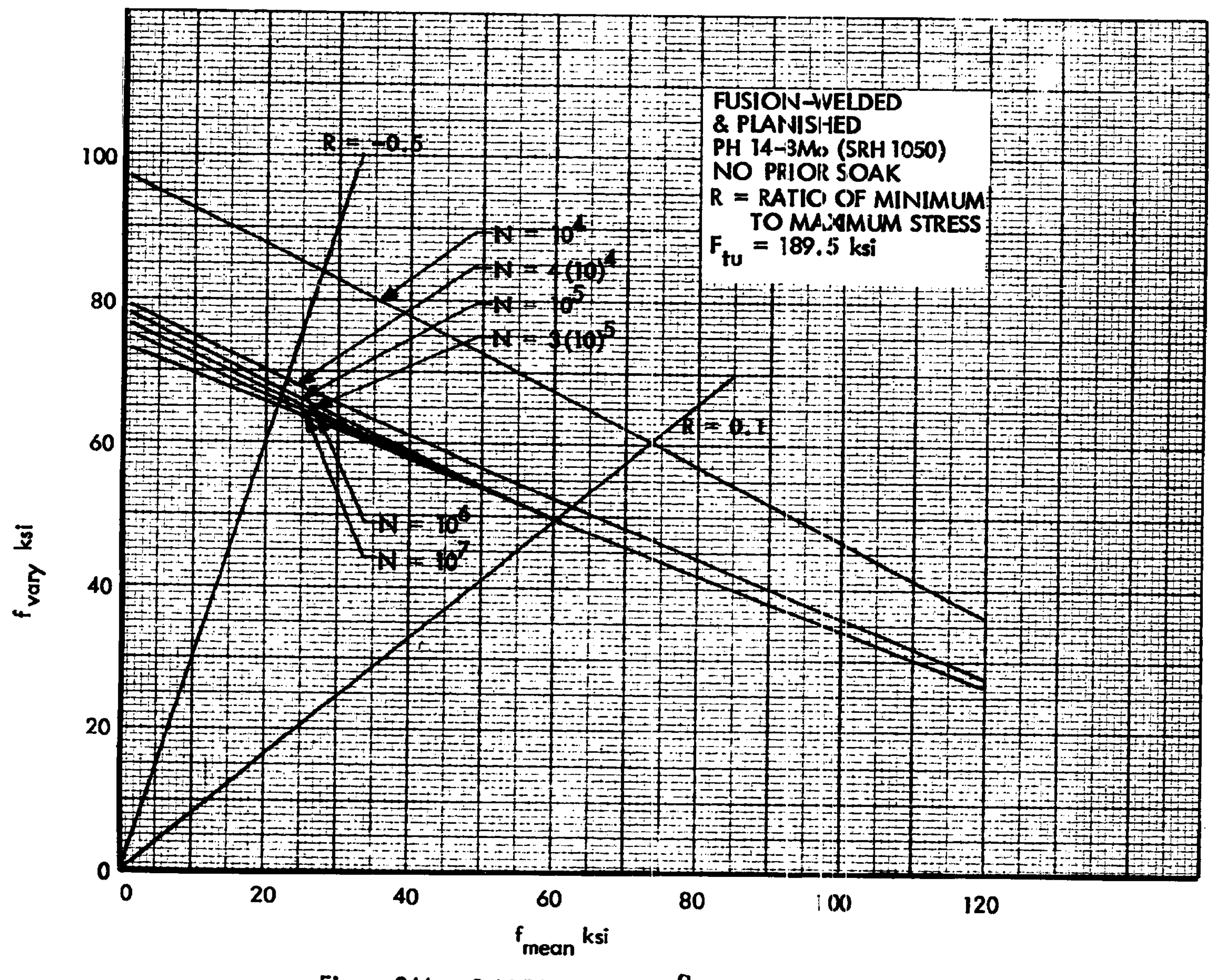


Figure 344. S-N Diagram at 400°F, Fusion-Welded PH14-8Mo

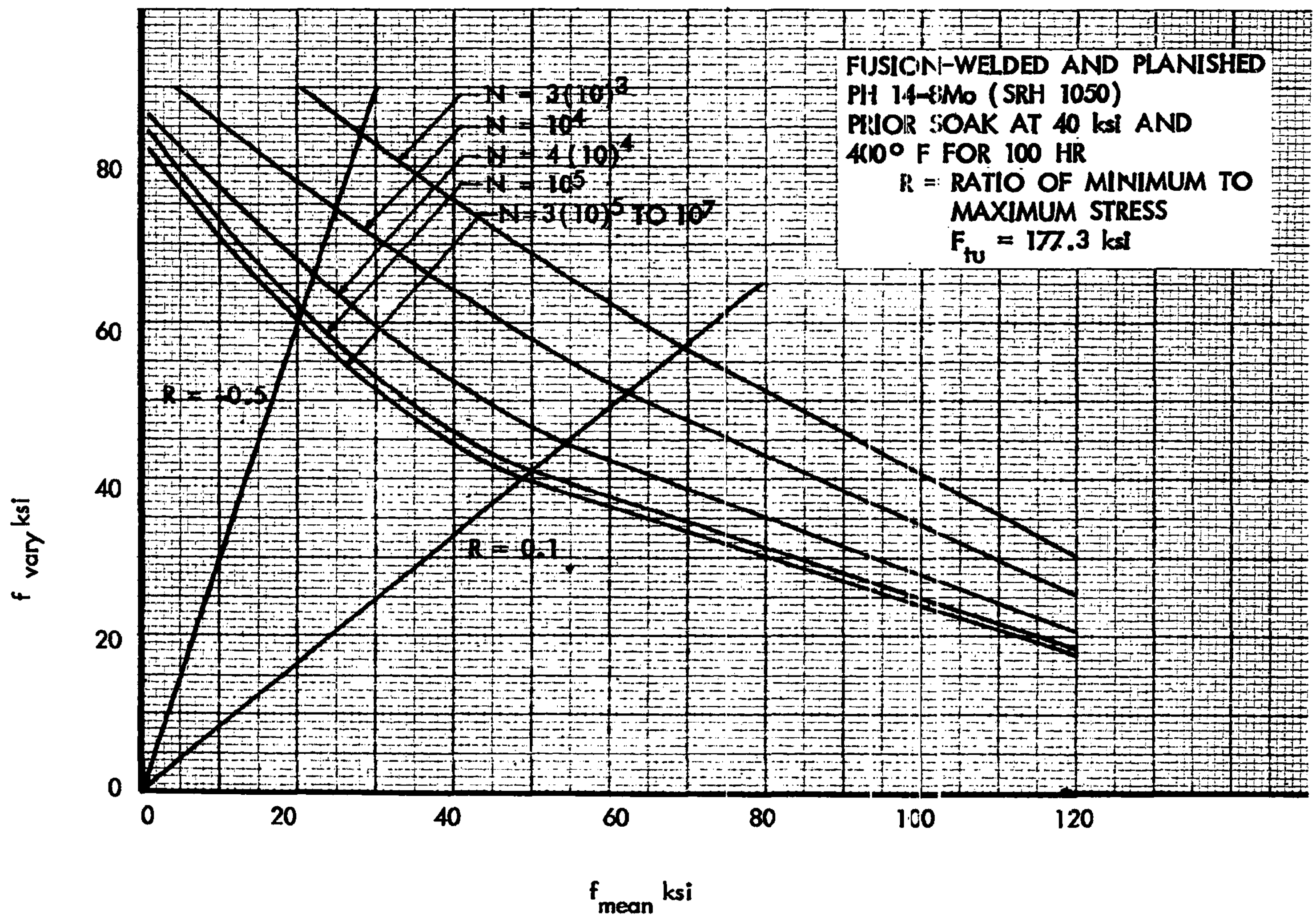


Figure 345. S-N Diagram at 400°F, Fusion-Welded PH14-8Mo

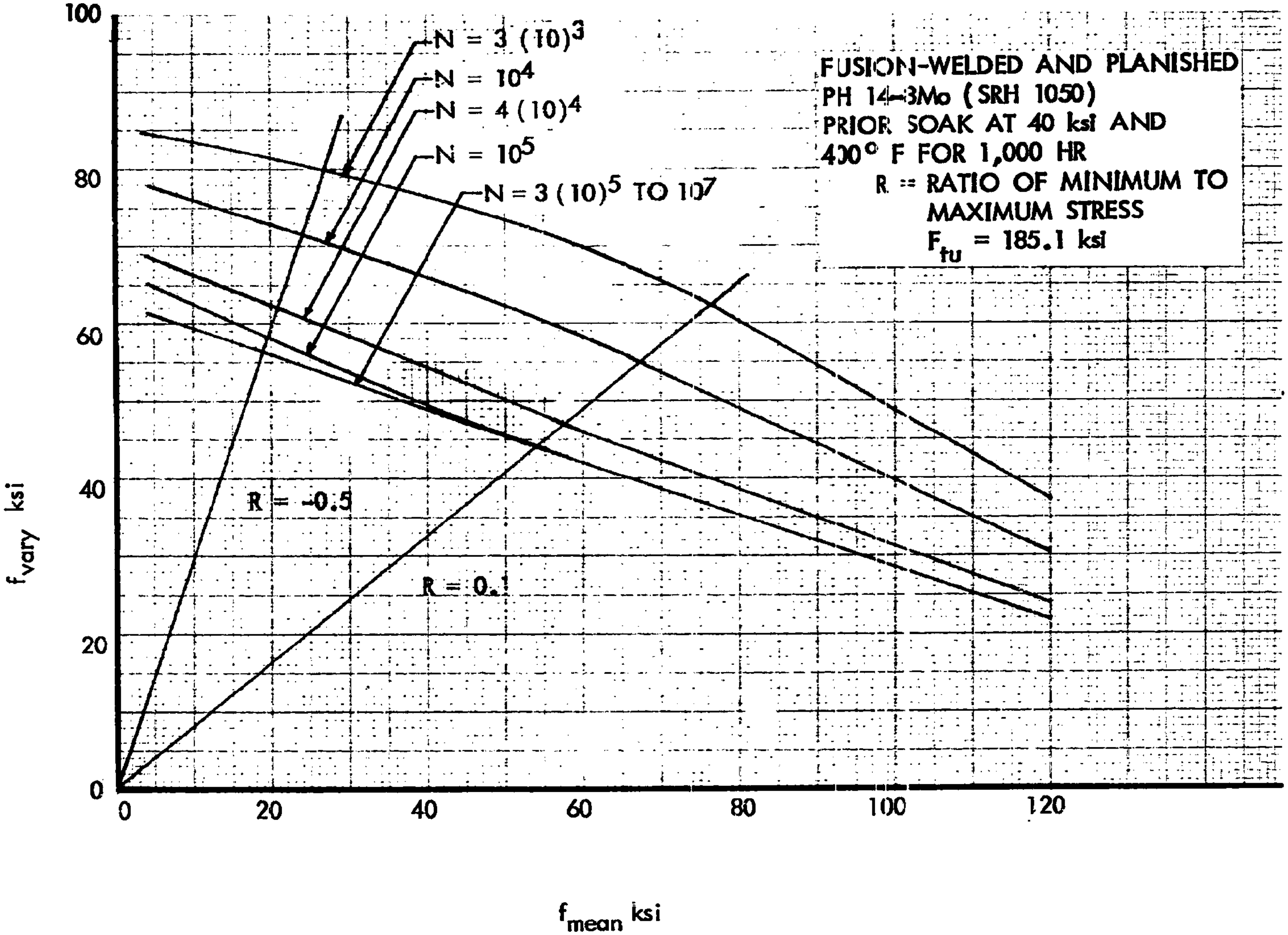


Figure 346. S-N Diagram at 400°F, Fusion-Welded PH14-8Mo

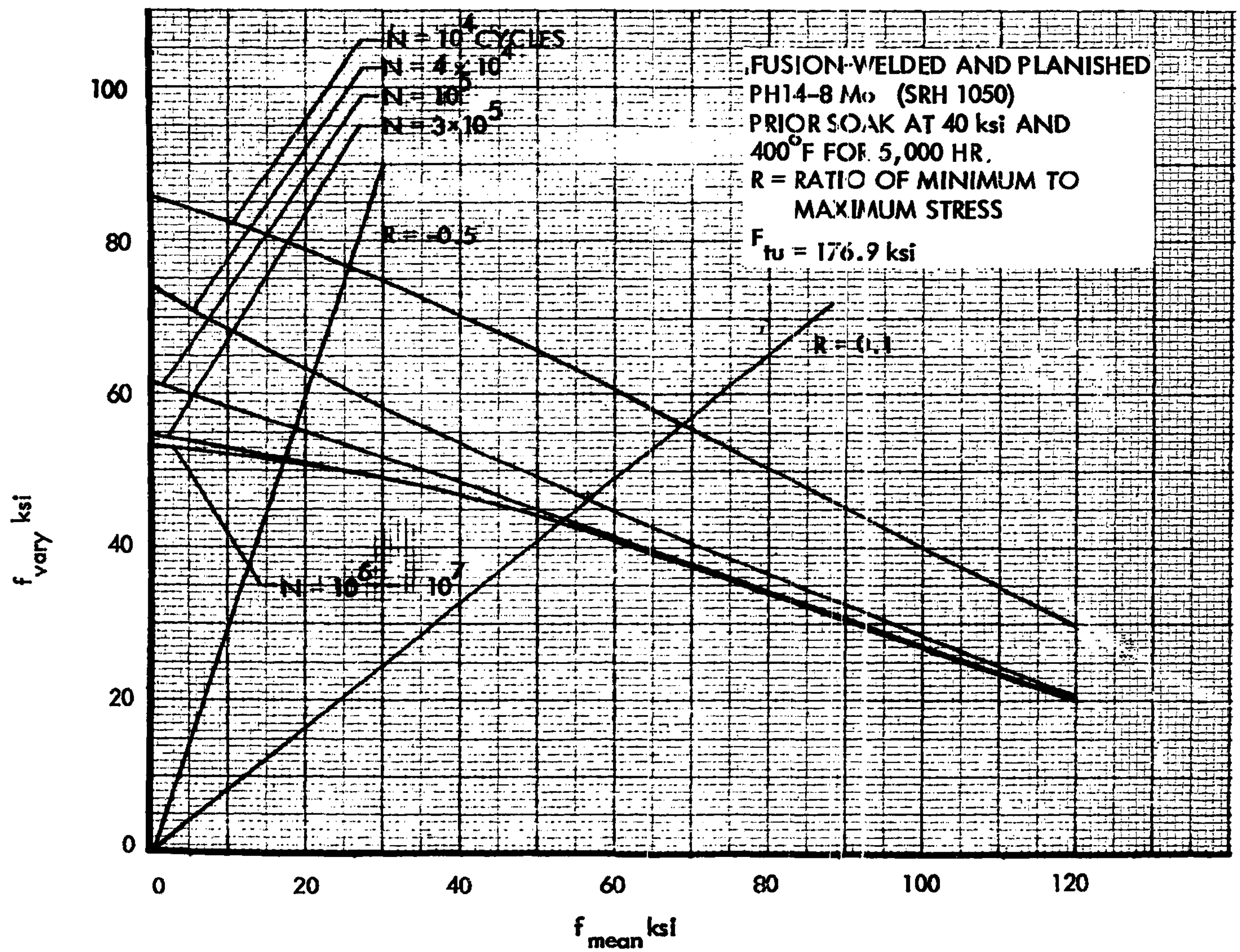


Figure 347. S-N Diagram at 400°F, Fusion-Welded PH14-8Mo

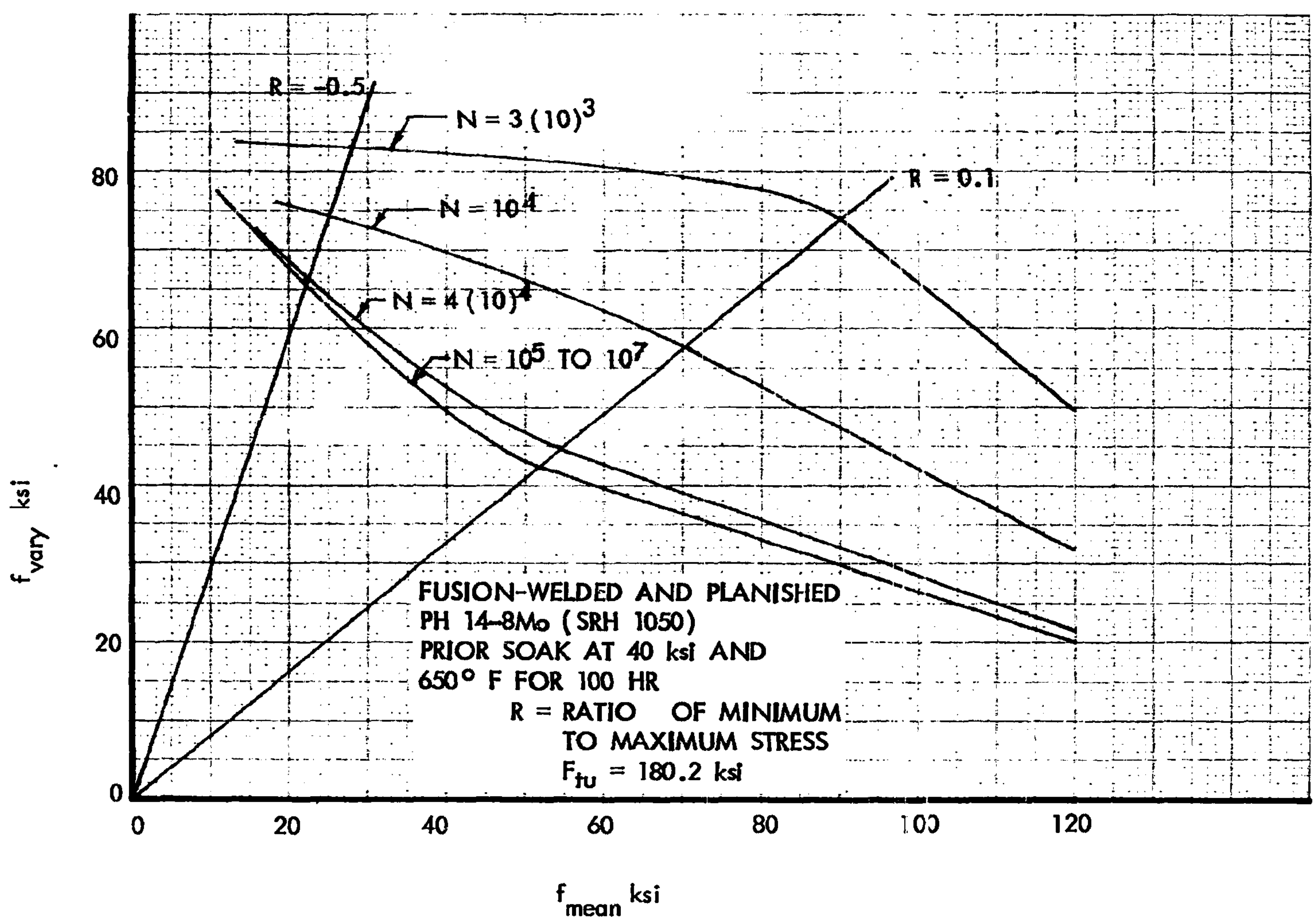


Figure 348. S-N Diagram at 400°F, Fusion-Welded PH14-8Mo

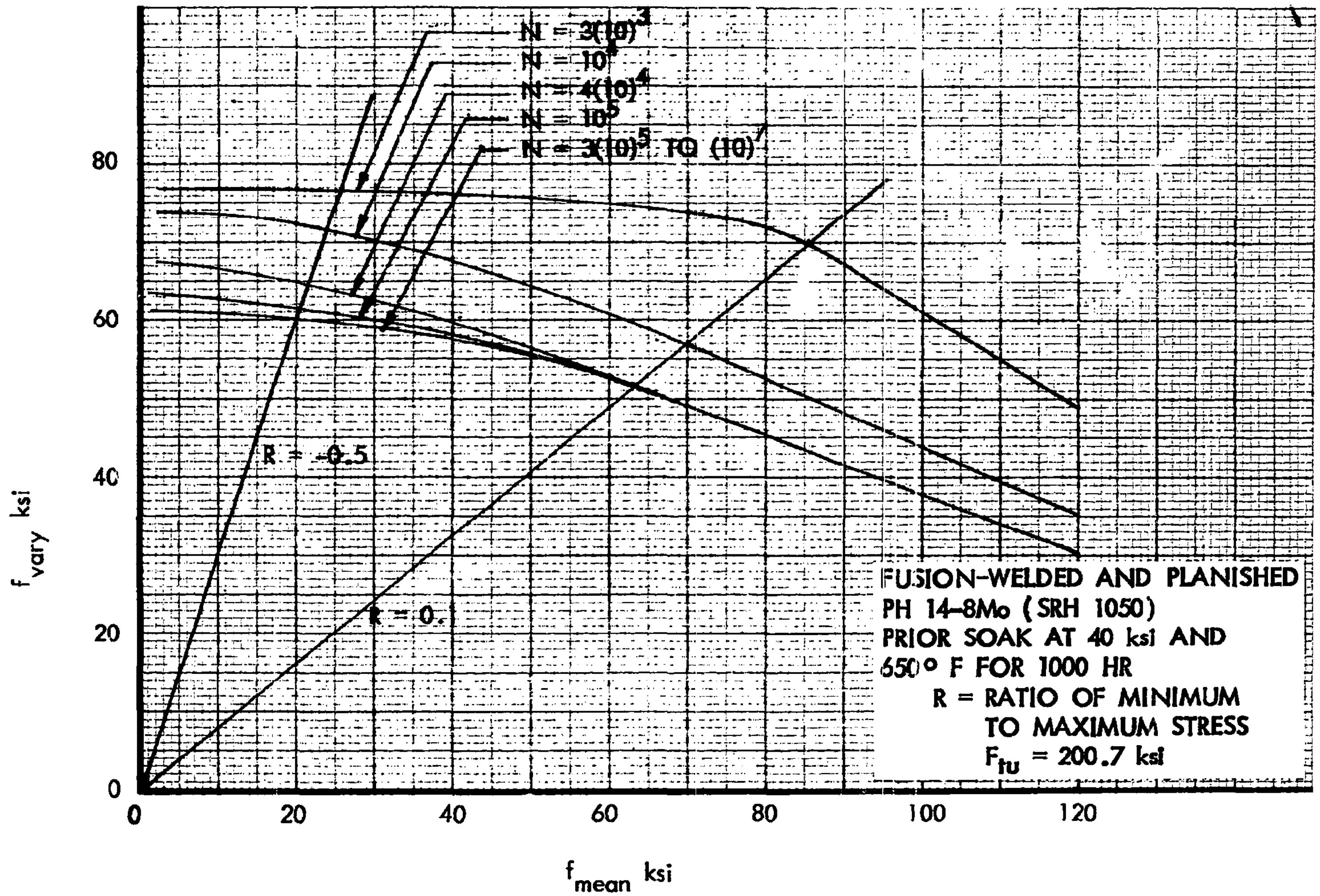


Figure 349. S-N Diagram at 400°F, Fusion-Welded PH14-8Mo

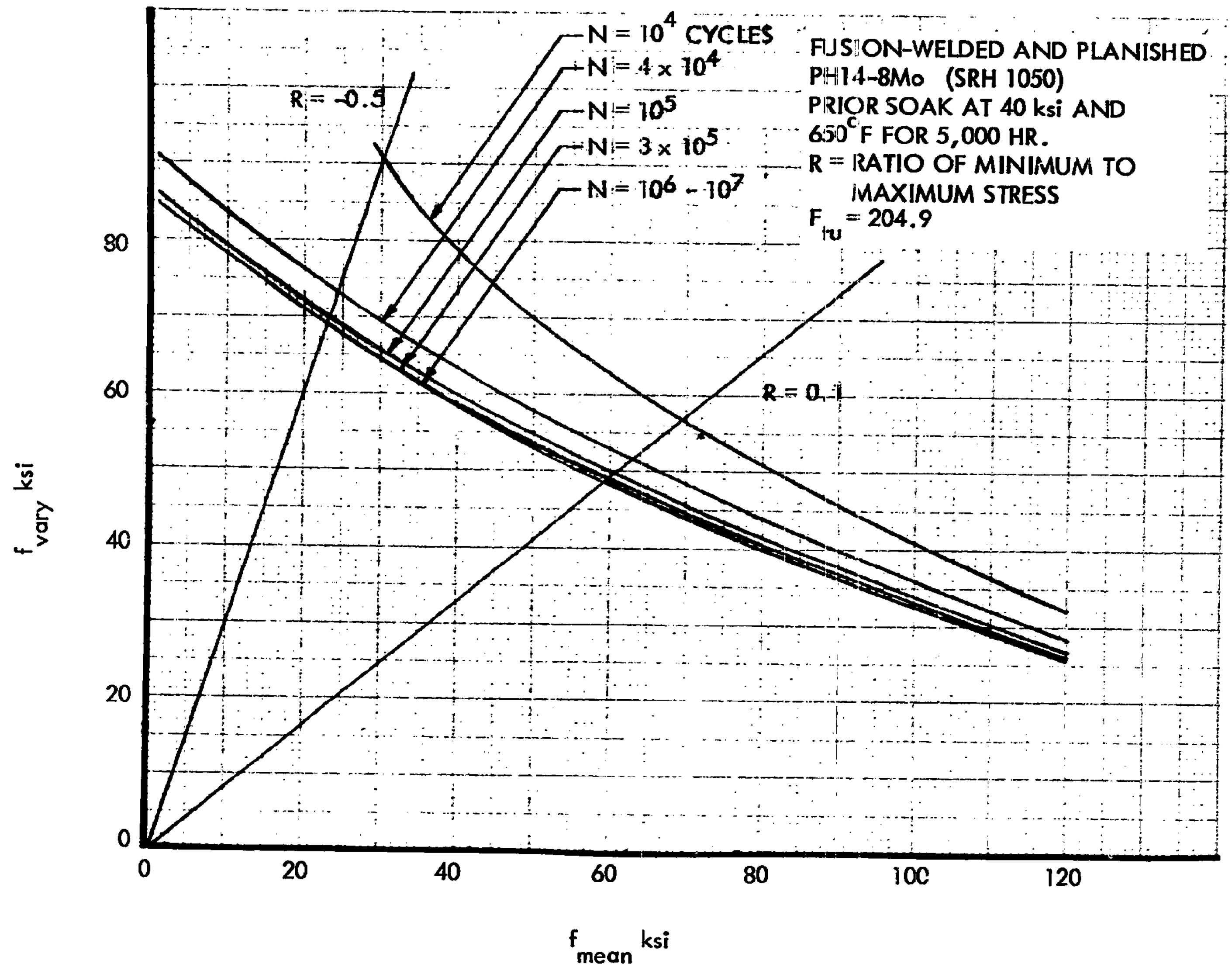


Figure 350. S-N Diagram at 400°F, Fusion-Welded PH14-8Mo

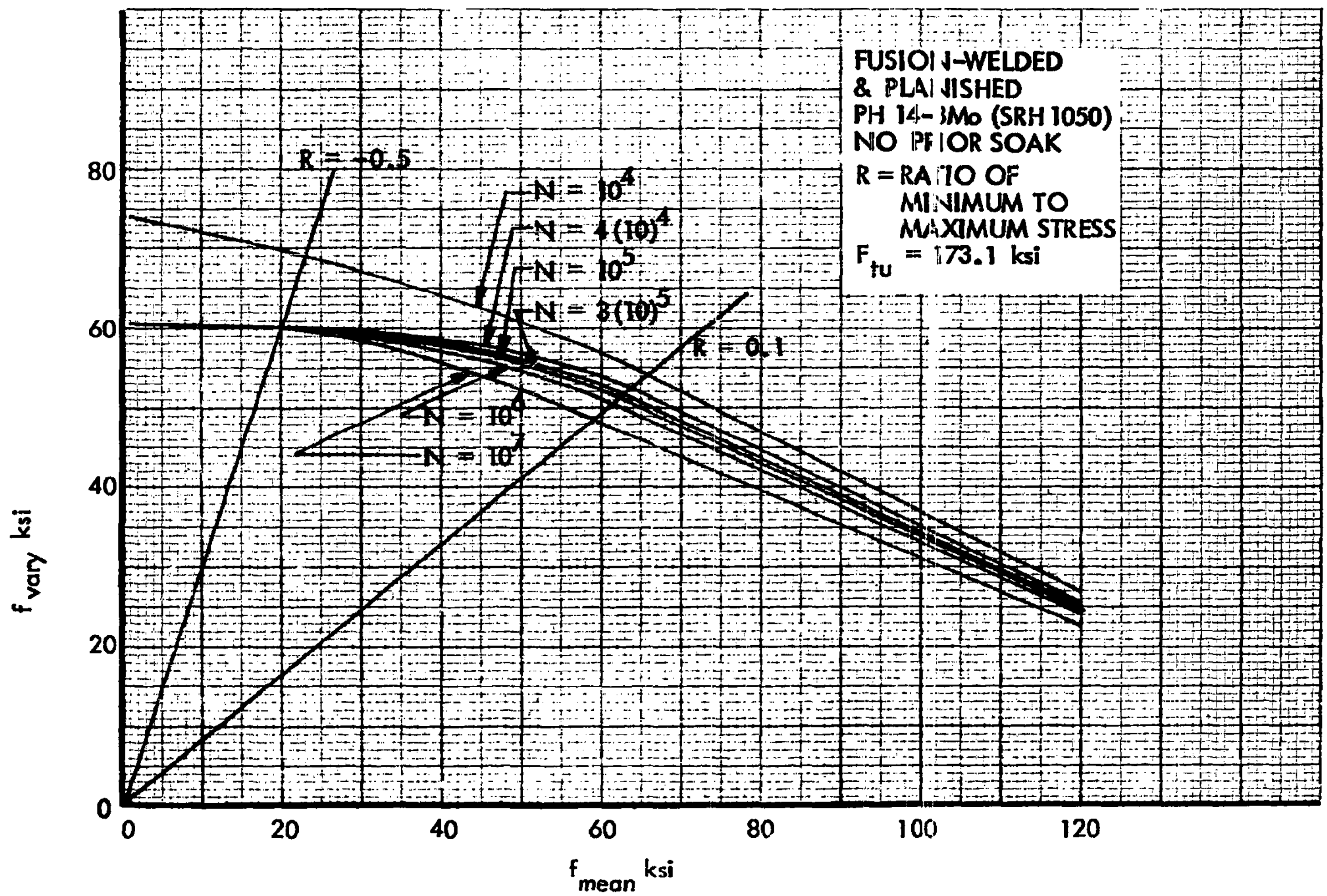


Figure 351. S-N Diagram at 650°F, Fusion-Welded PH14-8Mo

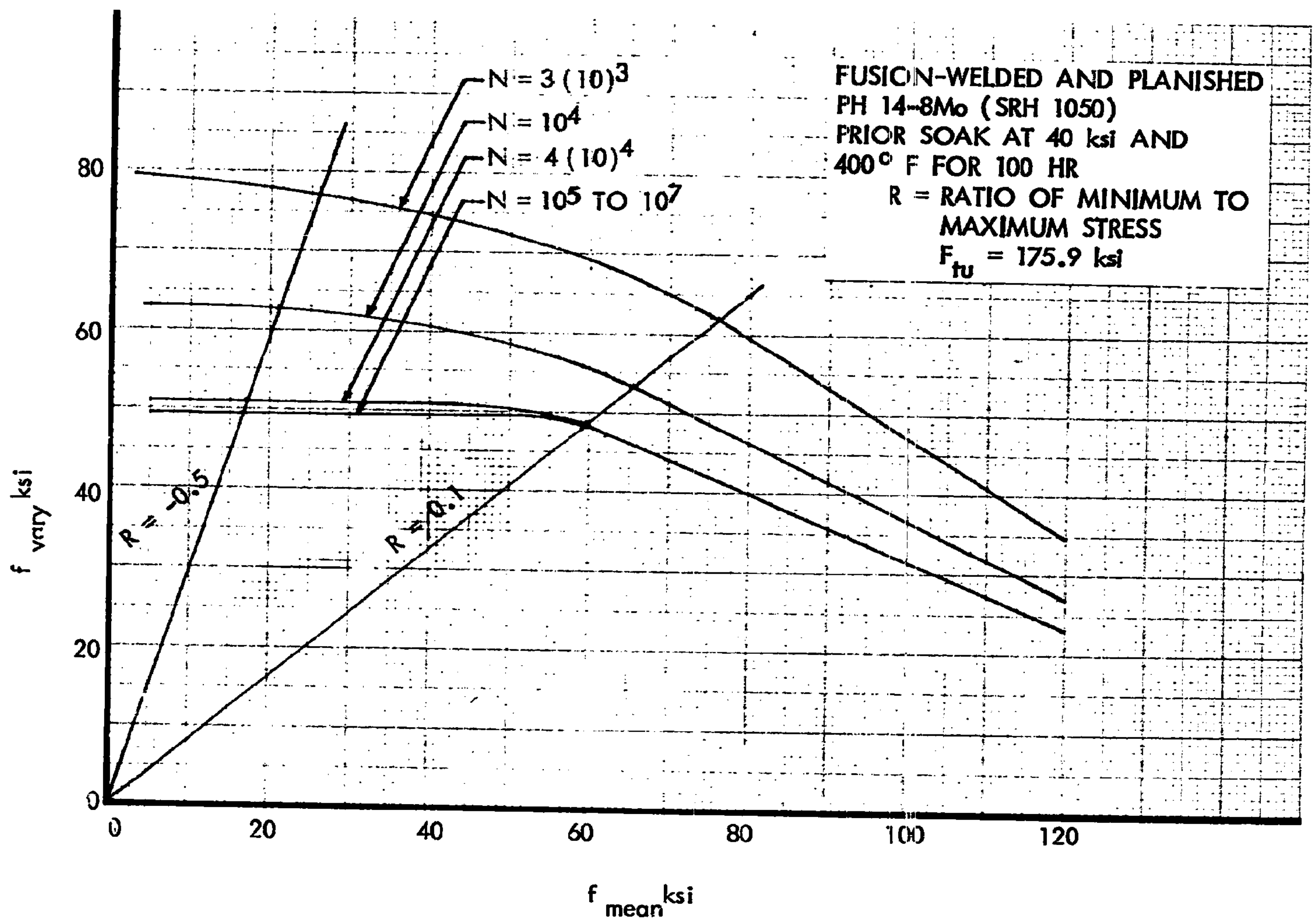


Figure 352. S-N Diagram at 650°F, Fusion-Welded PH14-8Mo

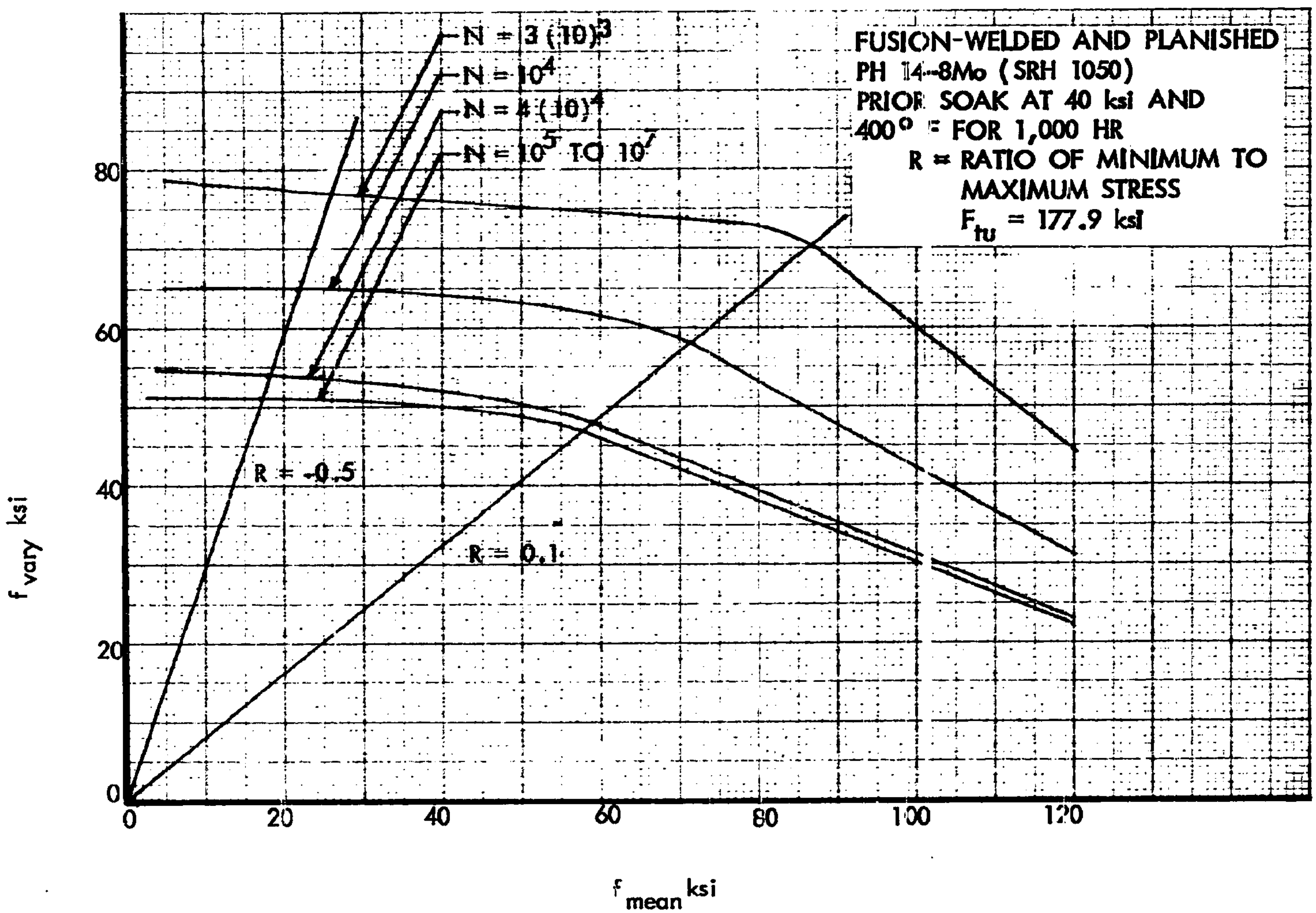


Figure 353. S-N Diagram at 650°F, Fusion-Welded PH14-8Mo

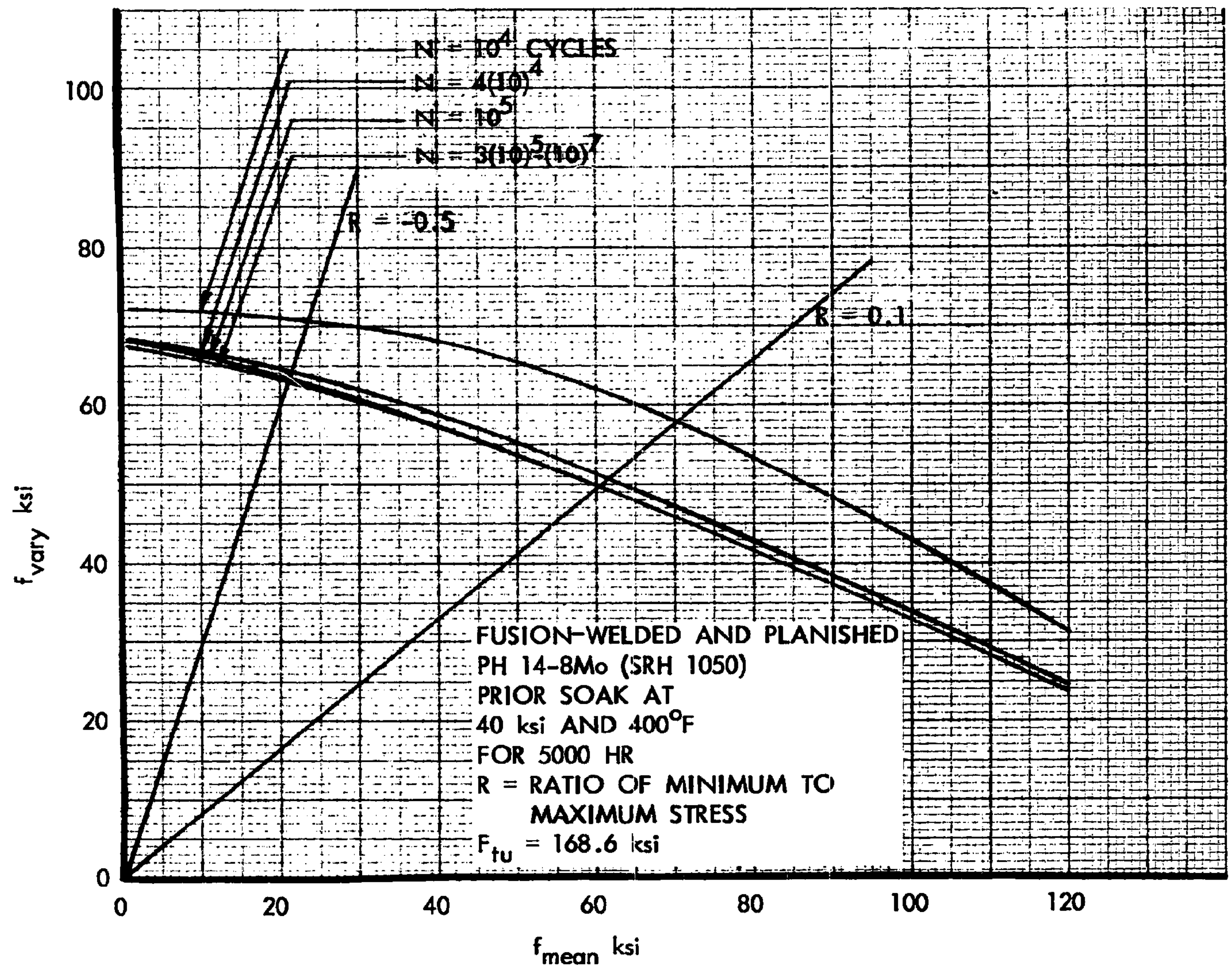


Figure 354. S-N Diagram at 650°F, Fusion-Welded PH14-8Mo

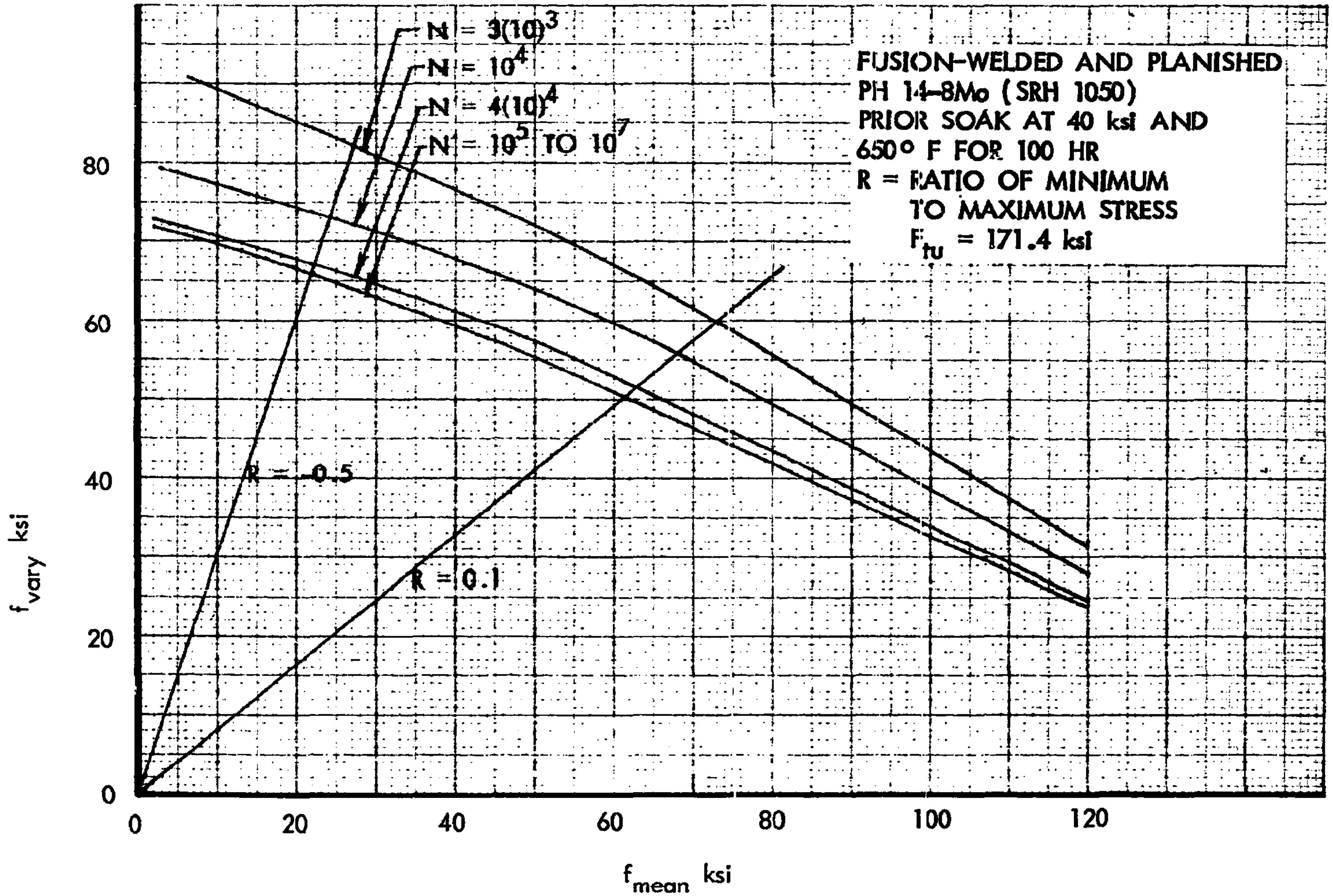


Figure 355. S-N Diagram at 650°F, Fusion-Welded PH14-8Mo

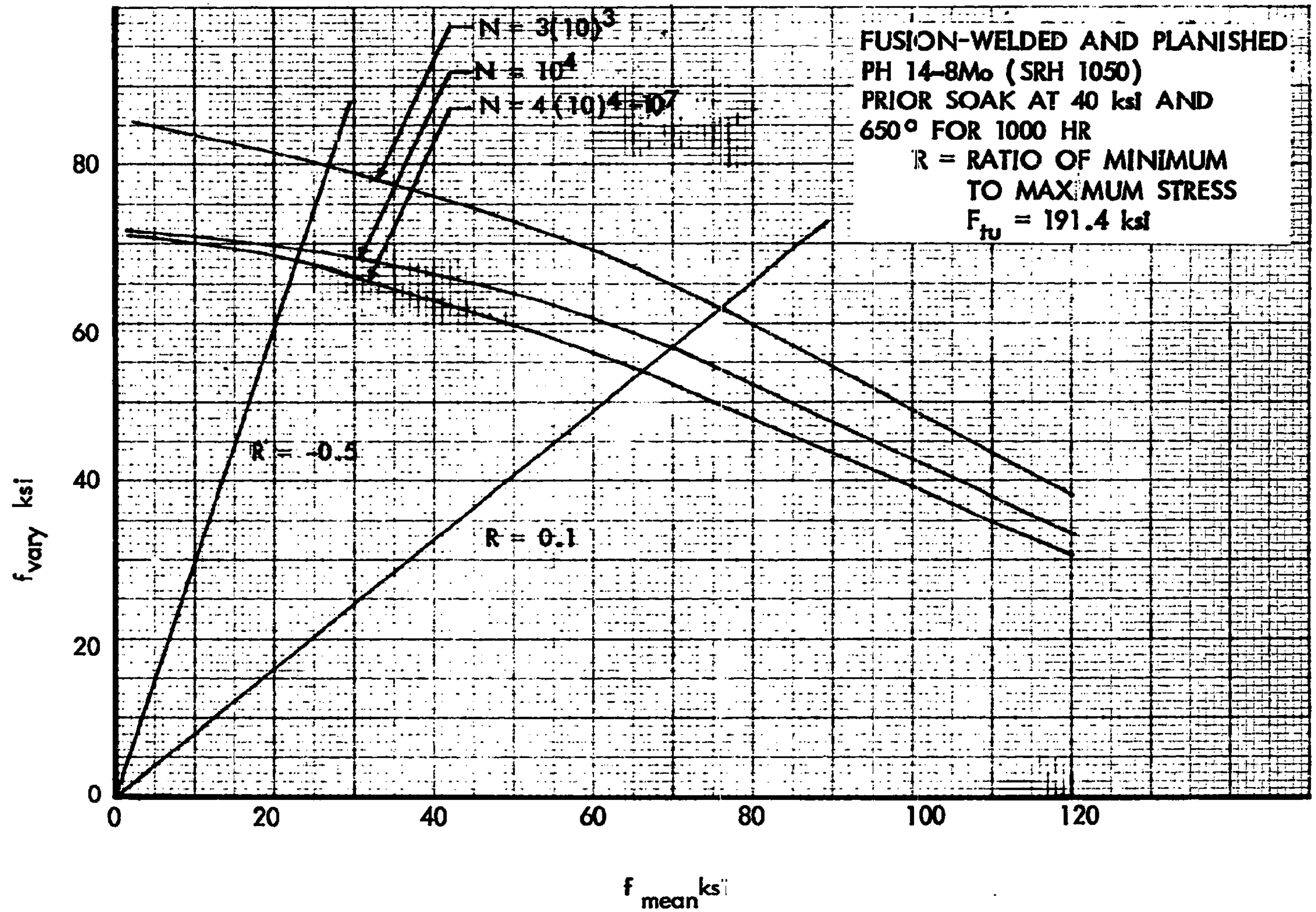


Figure 356. S-N Diagram at 650°F, Fusion-Welded PH14-8Mo

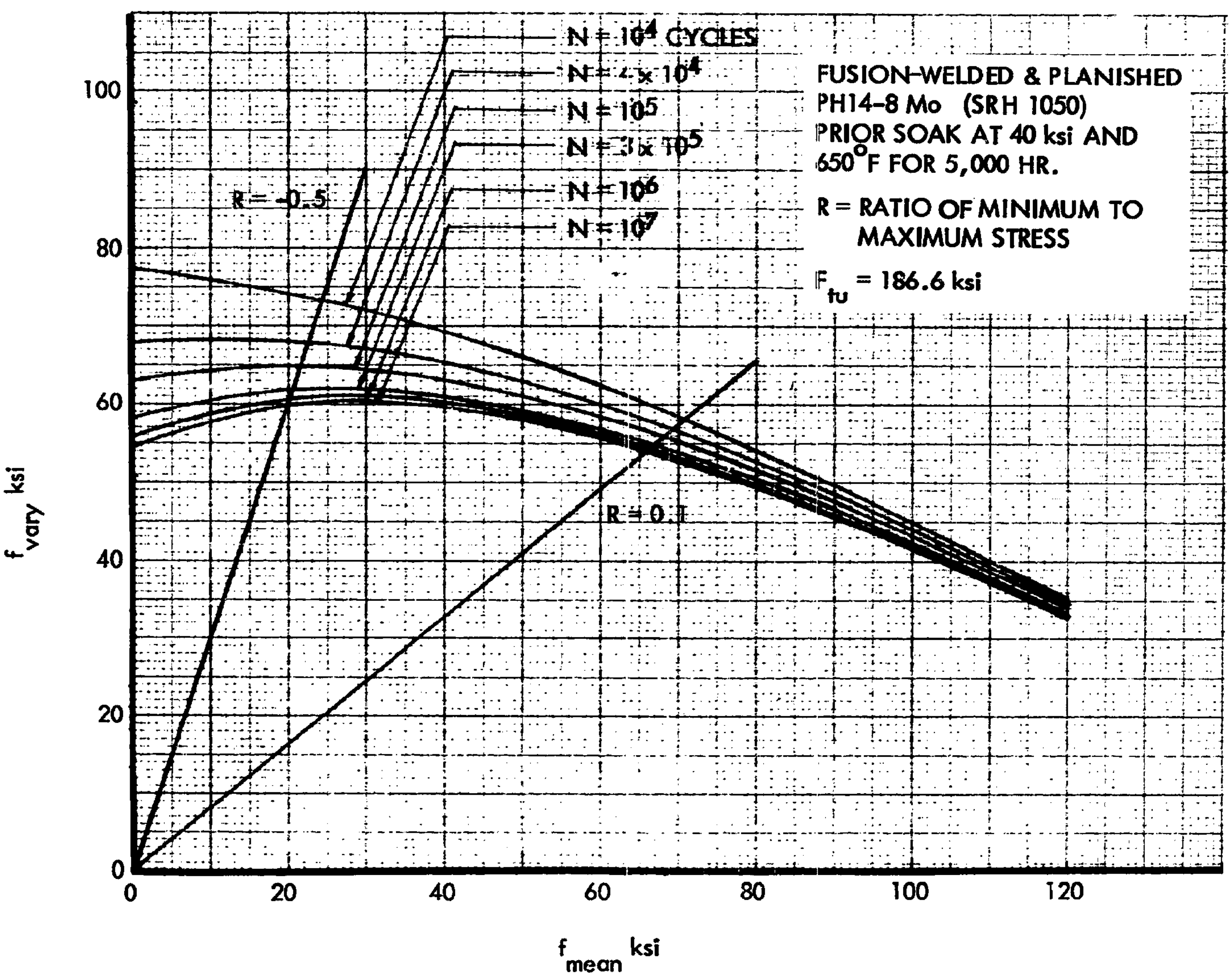


Figure 357. S-N Diagram at 650°F, Fusion-Welded PH14-8Mo

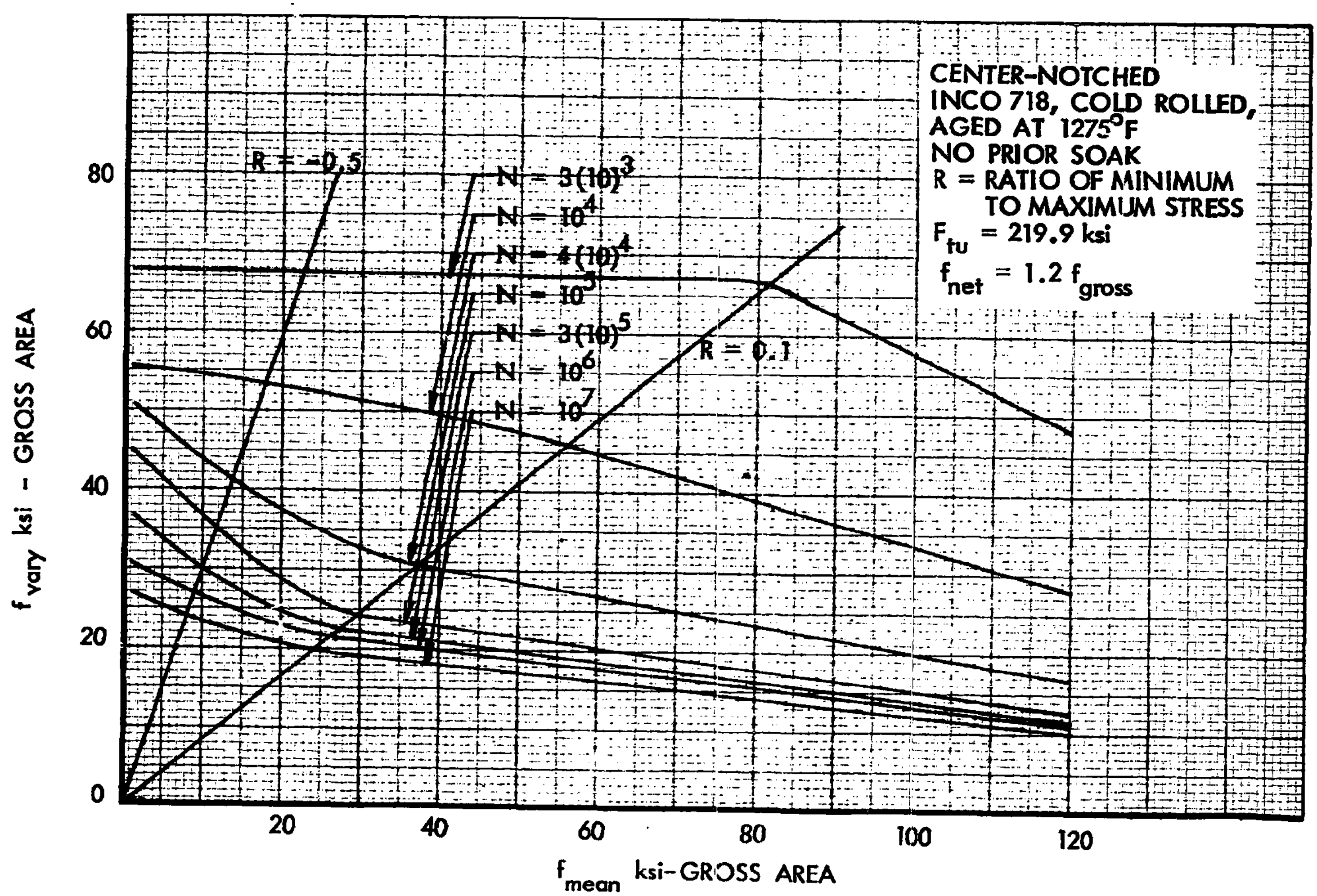


Figure 358. S-N Diagram at Room Temperature, Center-Notched INCO 718

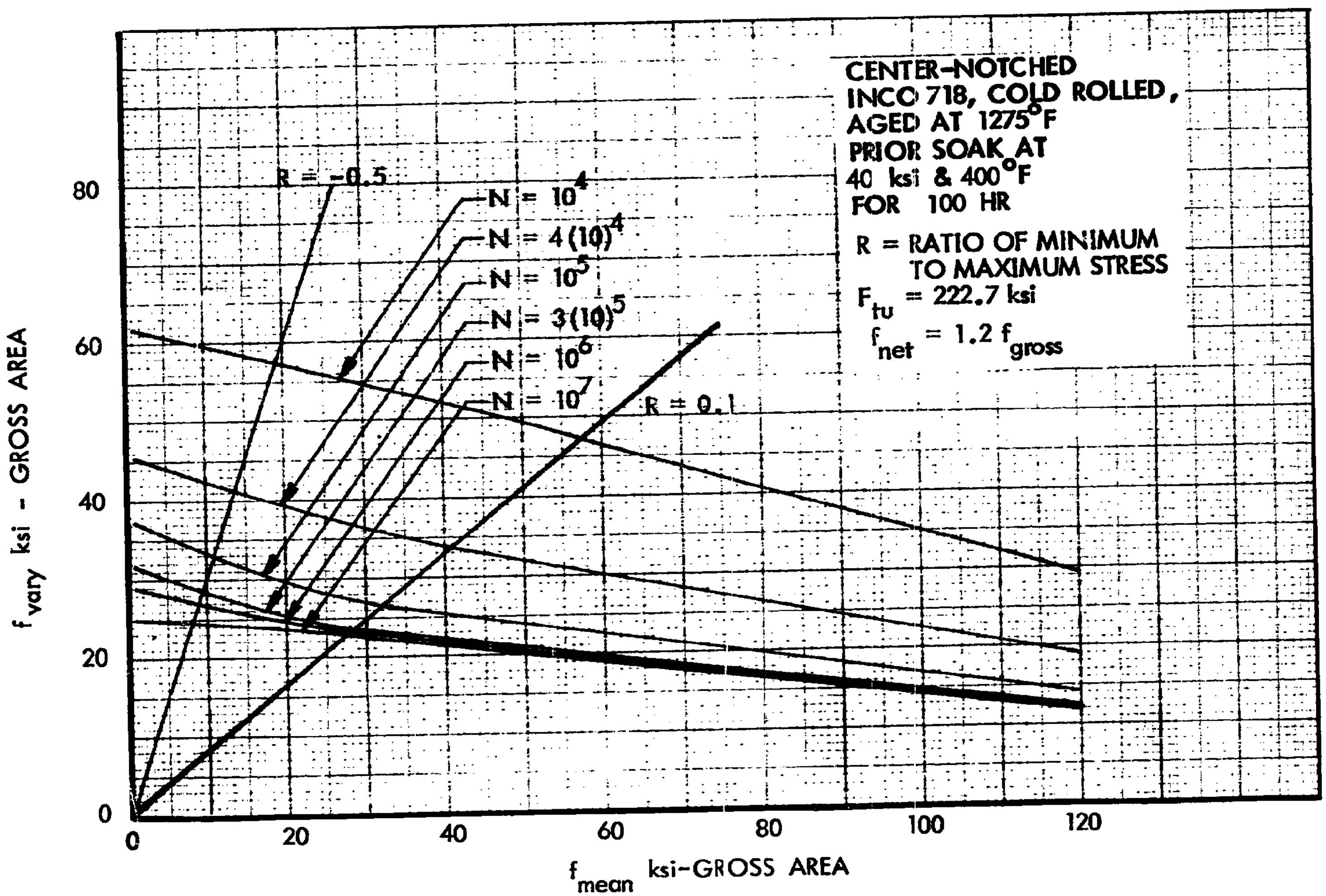


Figure 359. S-N Diagram at Room Temperature, Center-Notched INCO 718

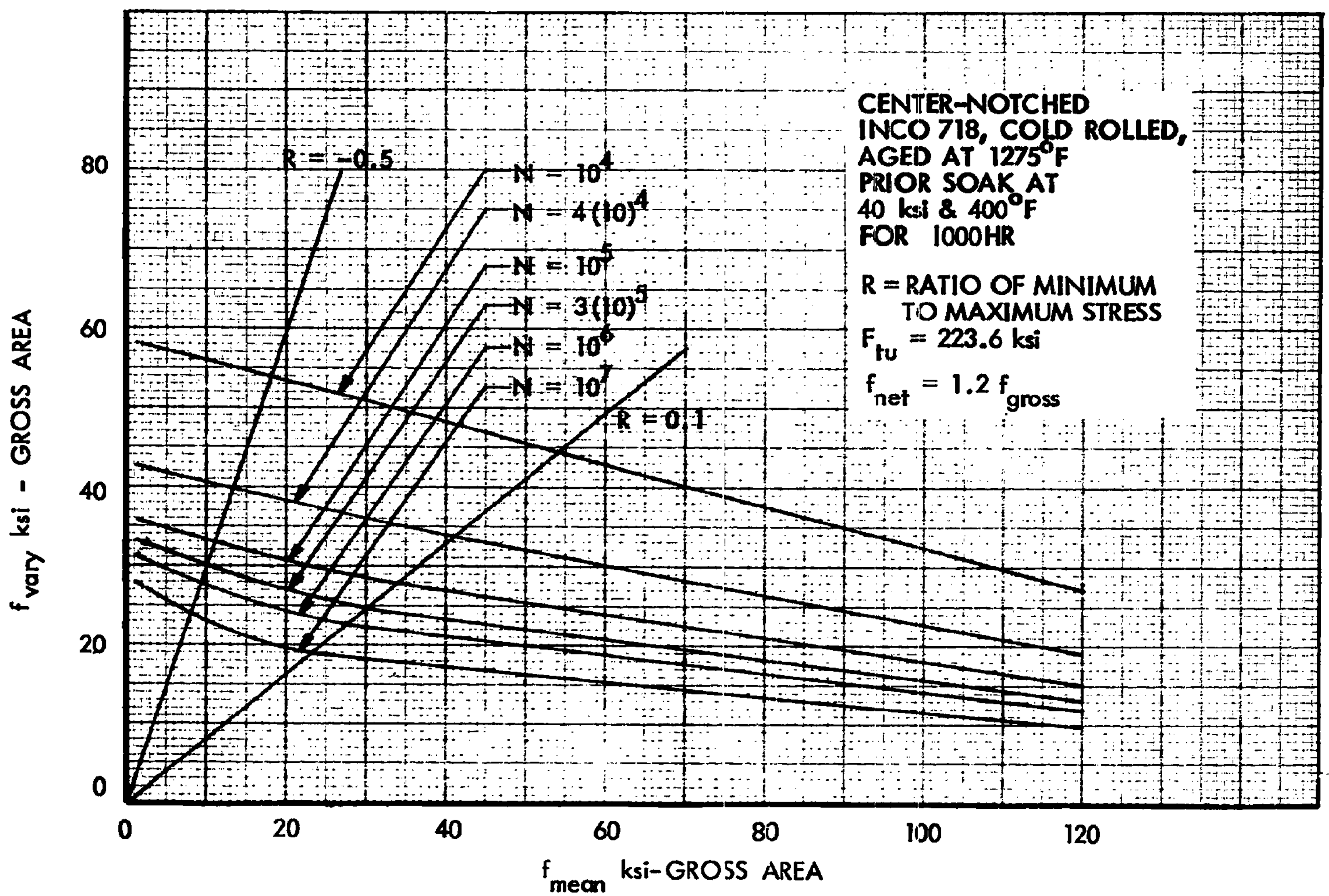


Figure 360. S-N Diagram at Room Temperature, Center-Notched INCO 718

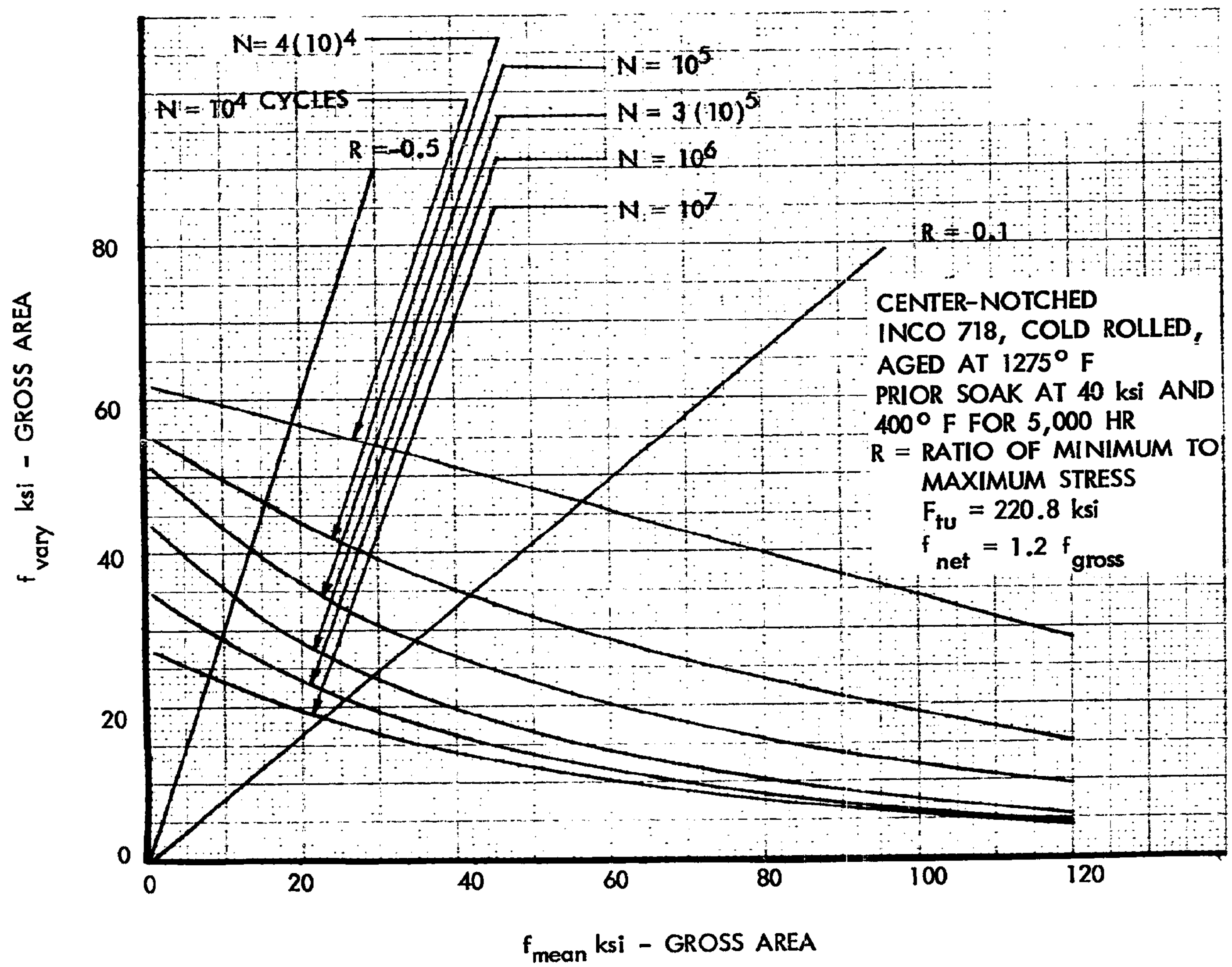


Figure 361. S-N Diagram at Room Temperature, Center-Notched INCO 718

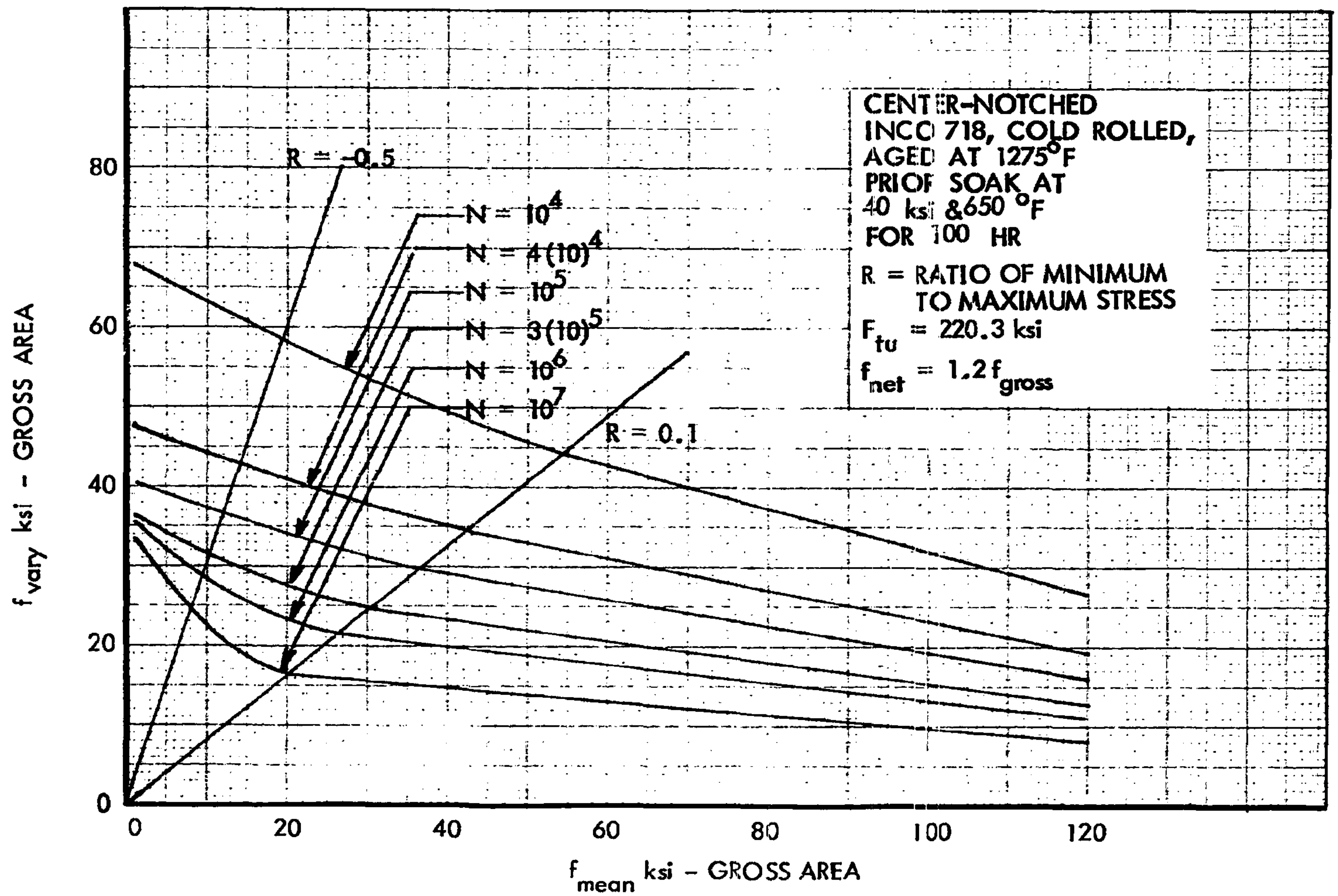


Figure 362. S-N Diagram at Room Temperature, Center-Notched INCO 718

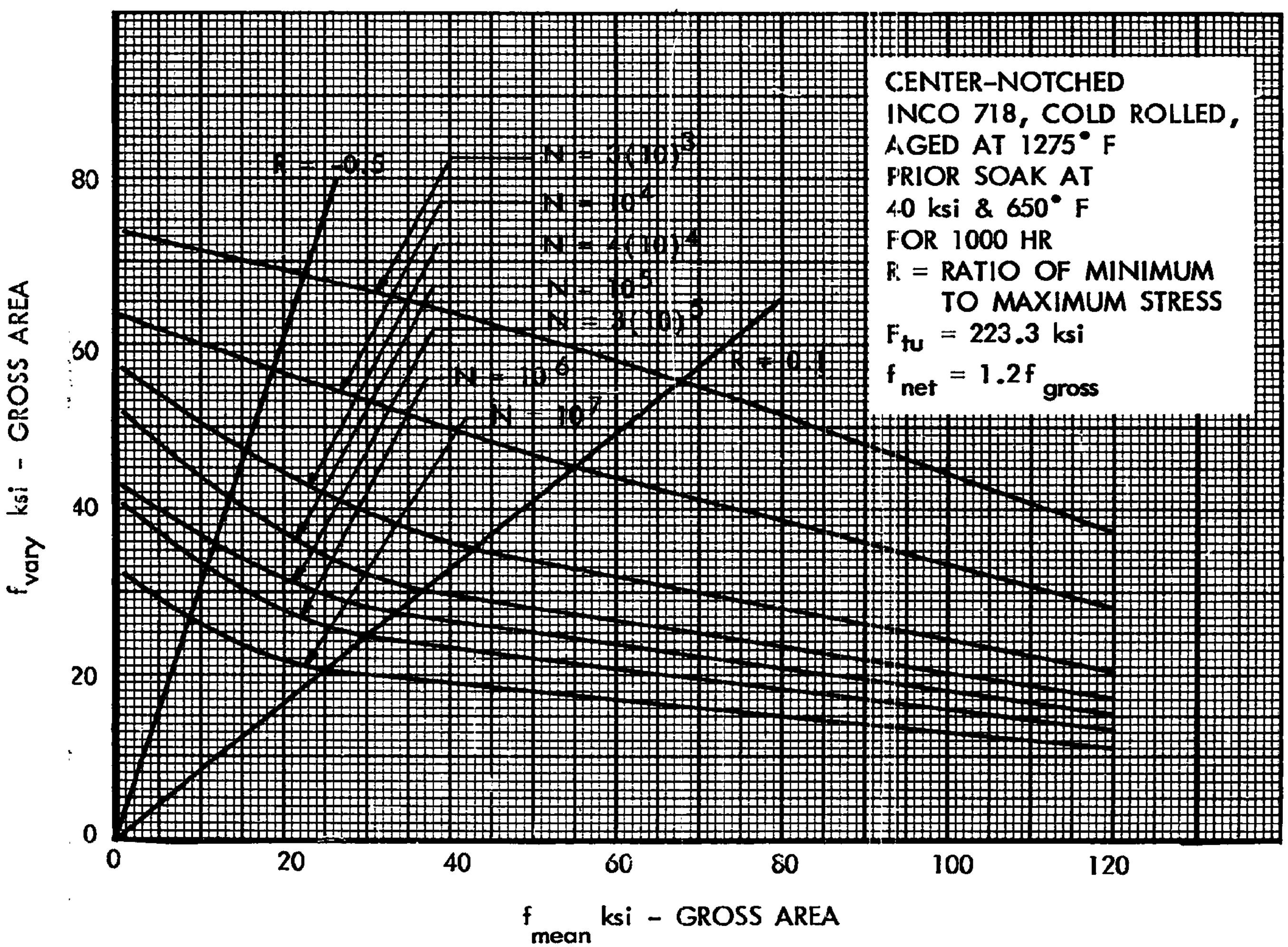


Figure 363. S-N Diagram at Room Temperature, Center-Notched INCO 718

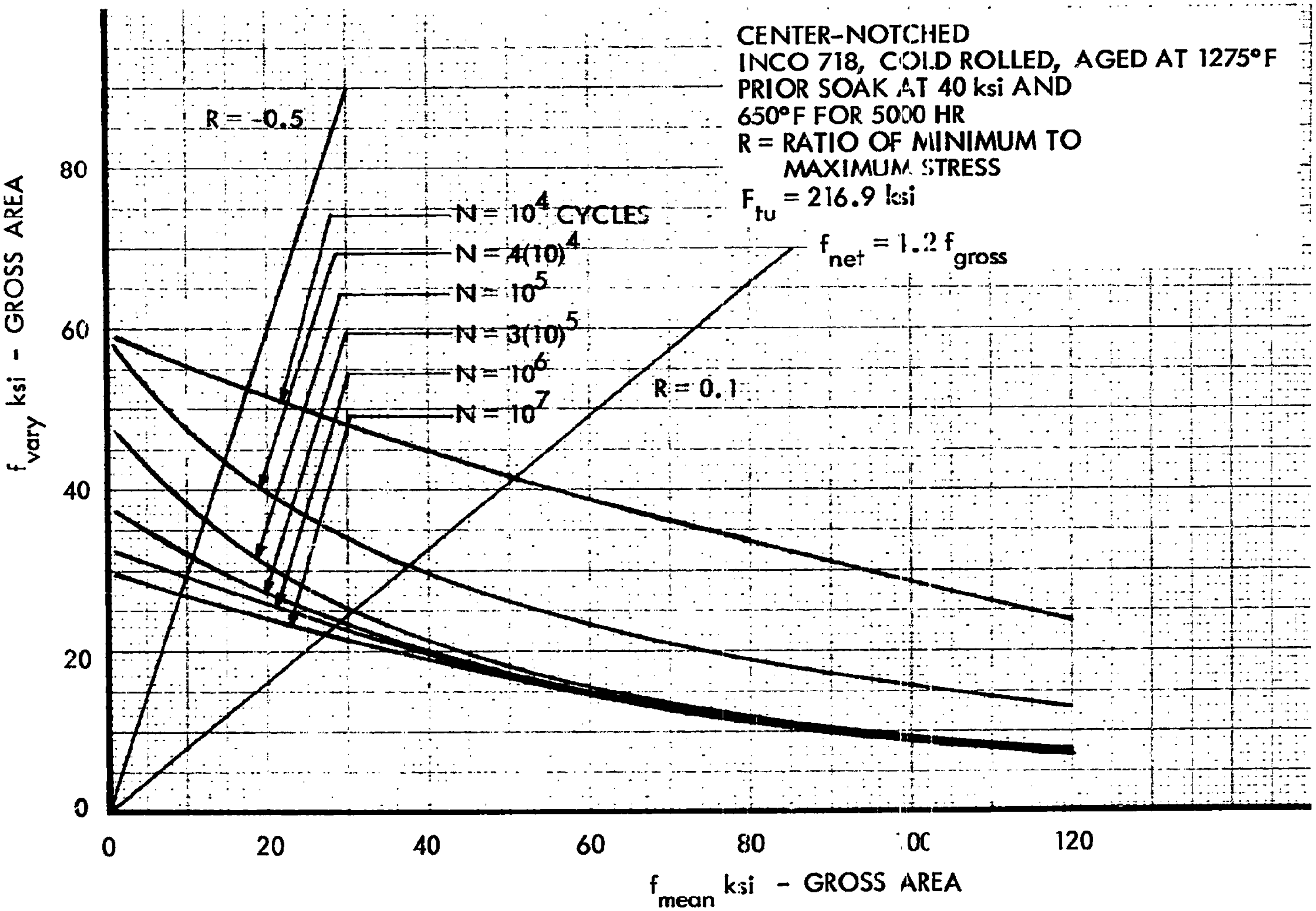


Figure 364. S-N Diagram at Room Temperature, Center-Notched INCO 718

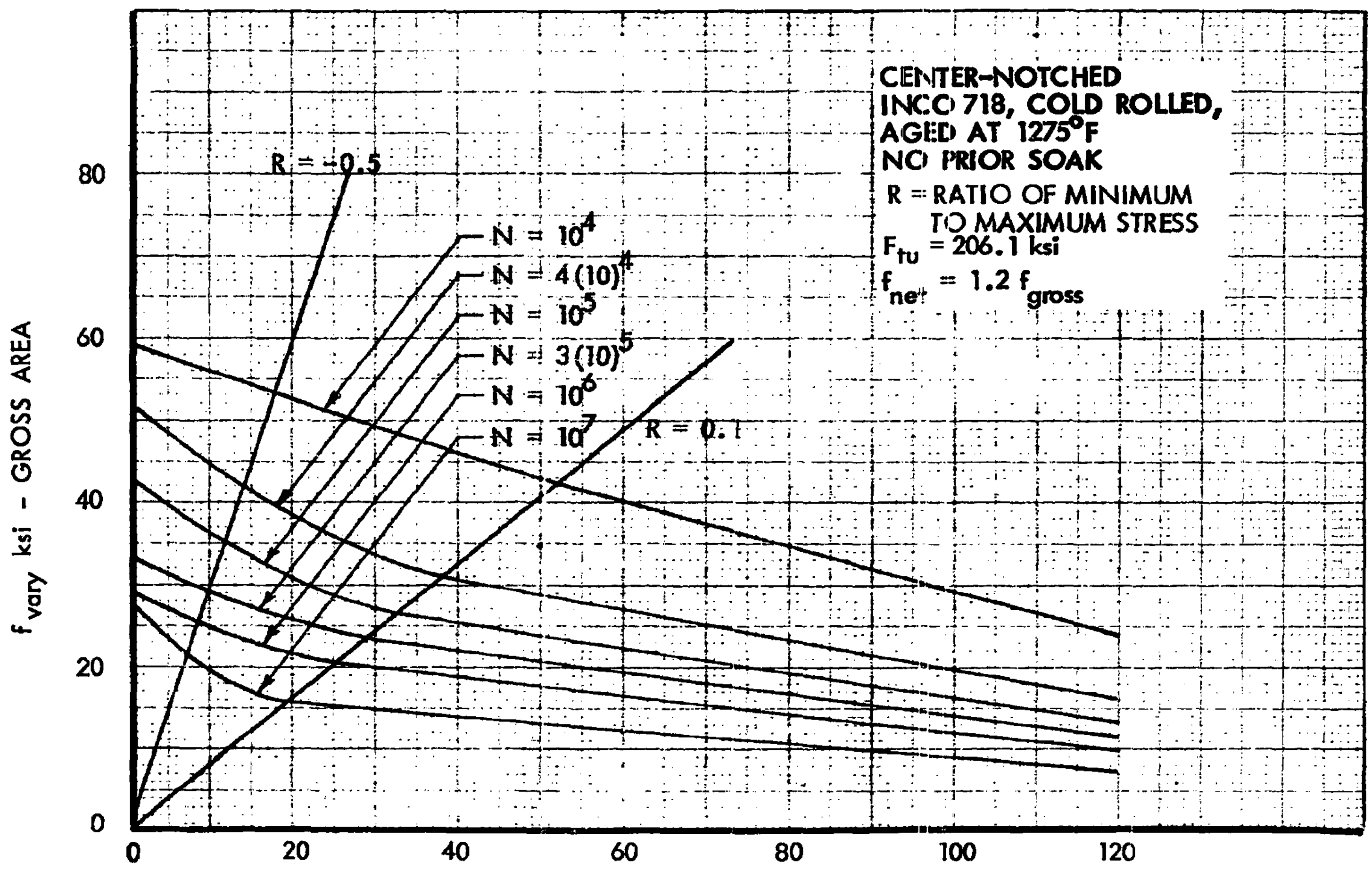


Figure 365. S-N Diagram at 400°F, Center-Notched INCO 718

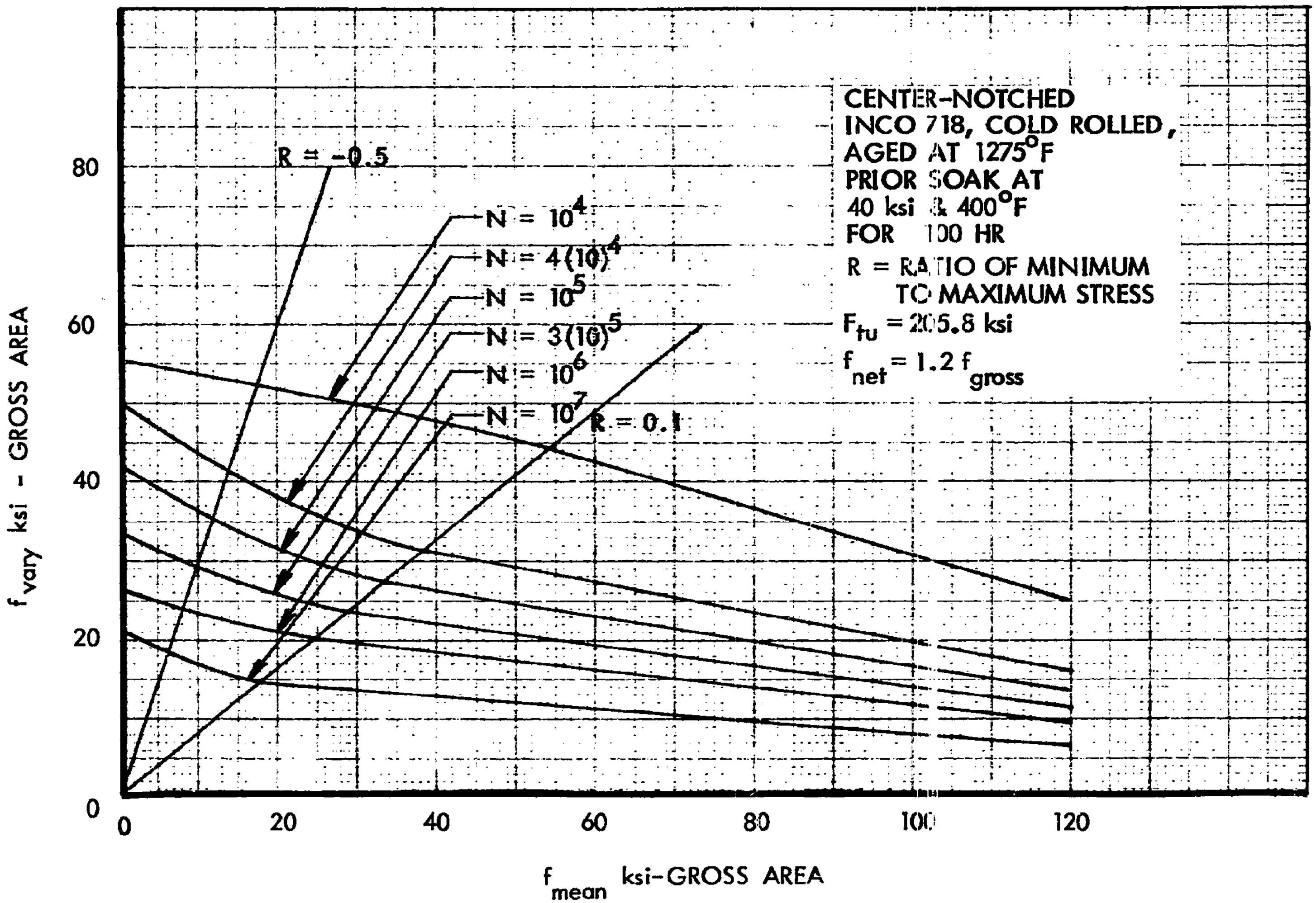


Figure 366. S-N Diagram at 400°F, Center-Notched INCO 718

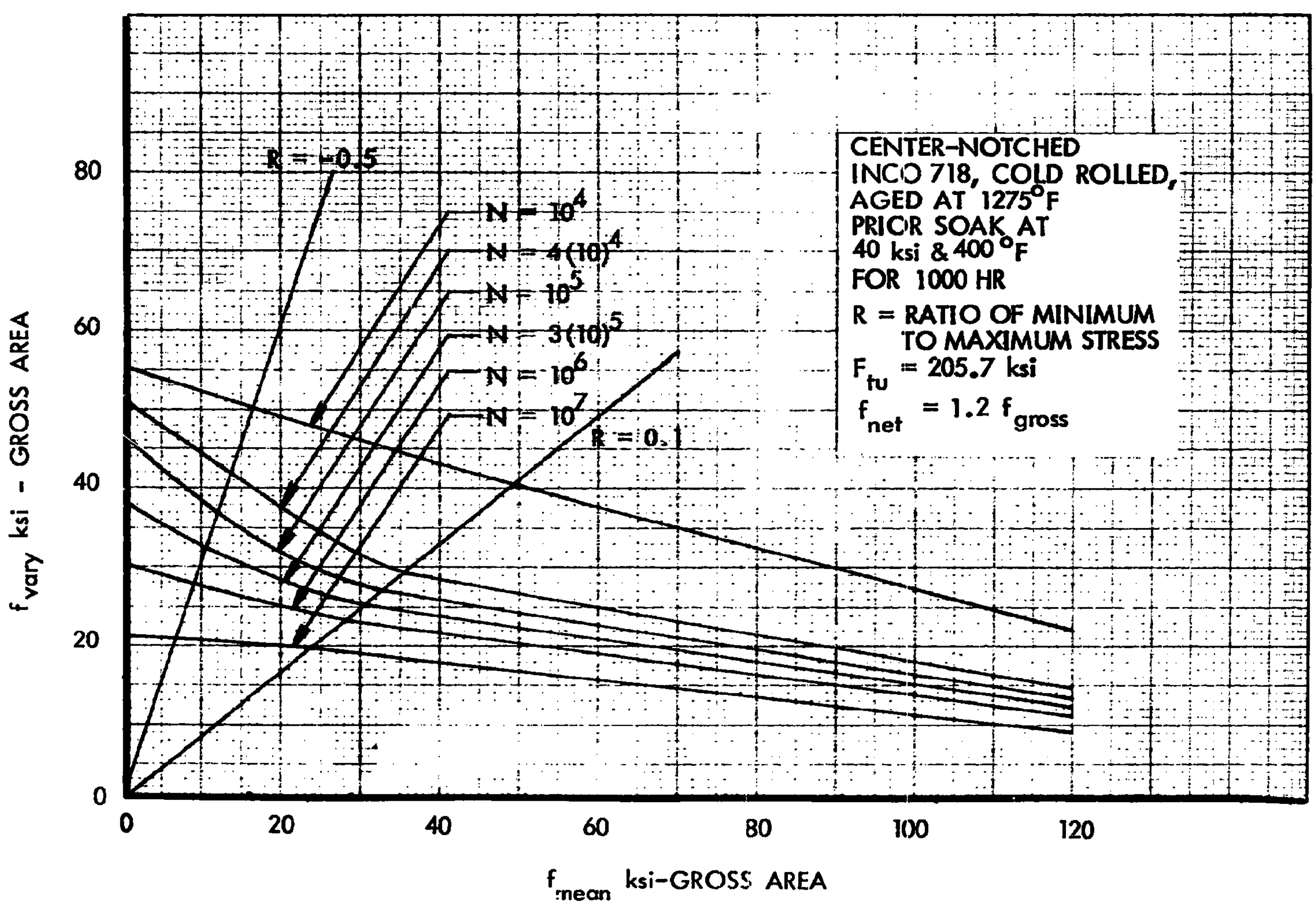


Figure 367. S-N Diagram at 400°F, Center-Notched INCO 718

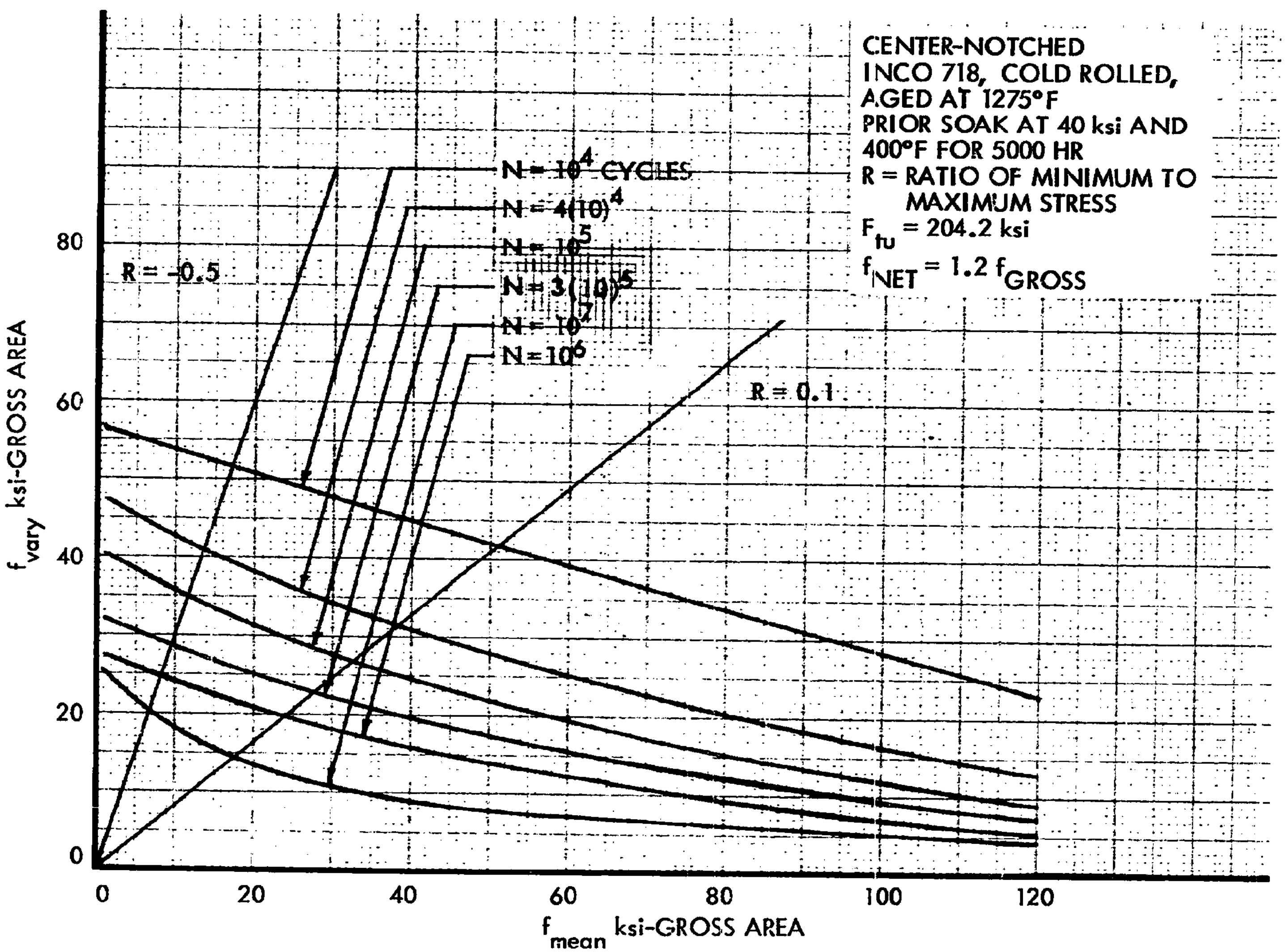


Figure 368. S-N Diagram at 400°F, Center-Notched INCO 718

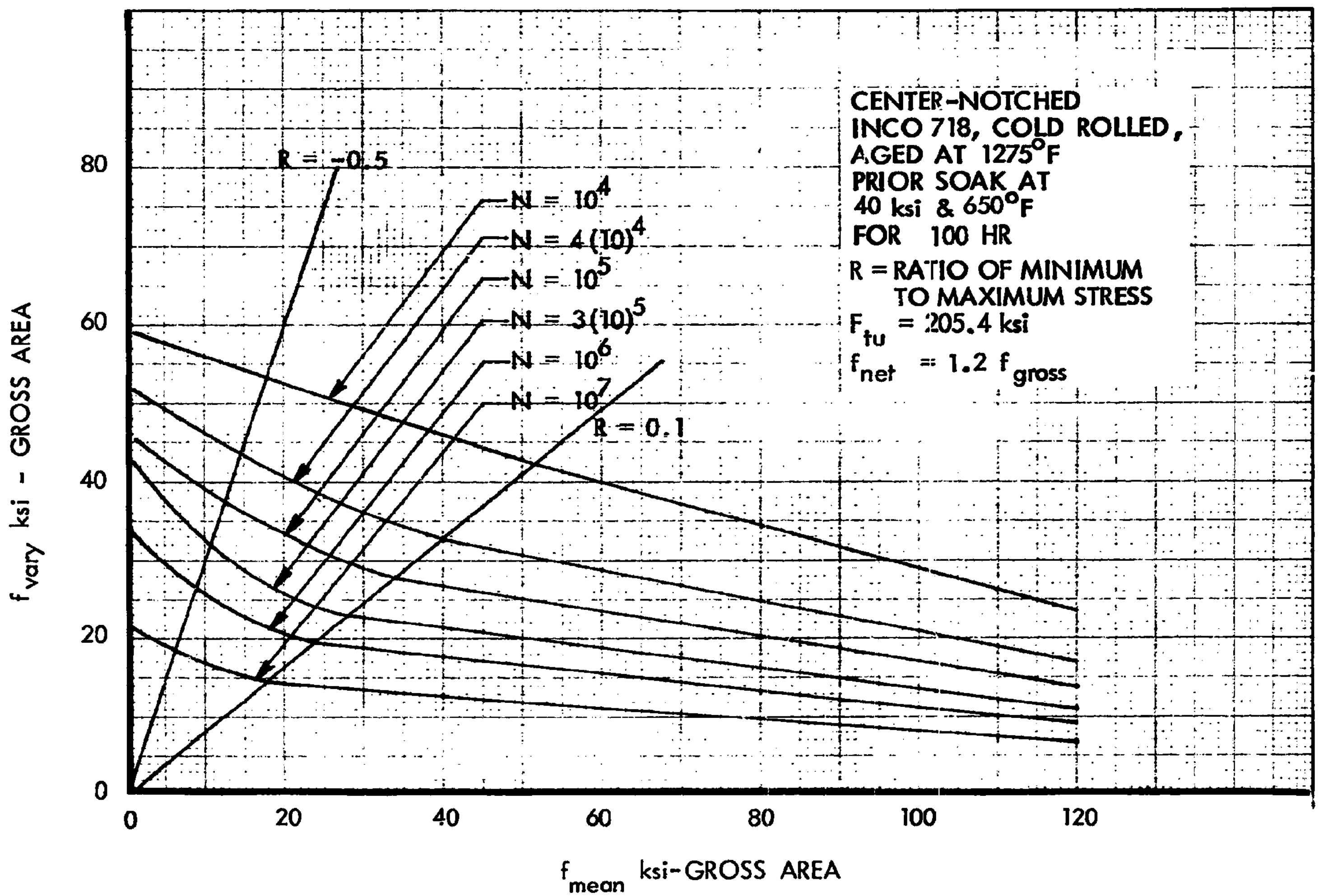


Figure 369. S-N Diagram at 400°F, Center-Notched INCO 718

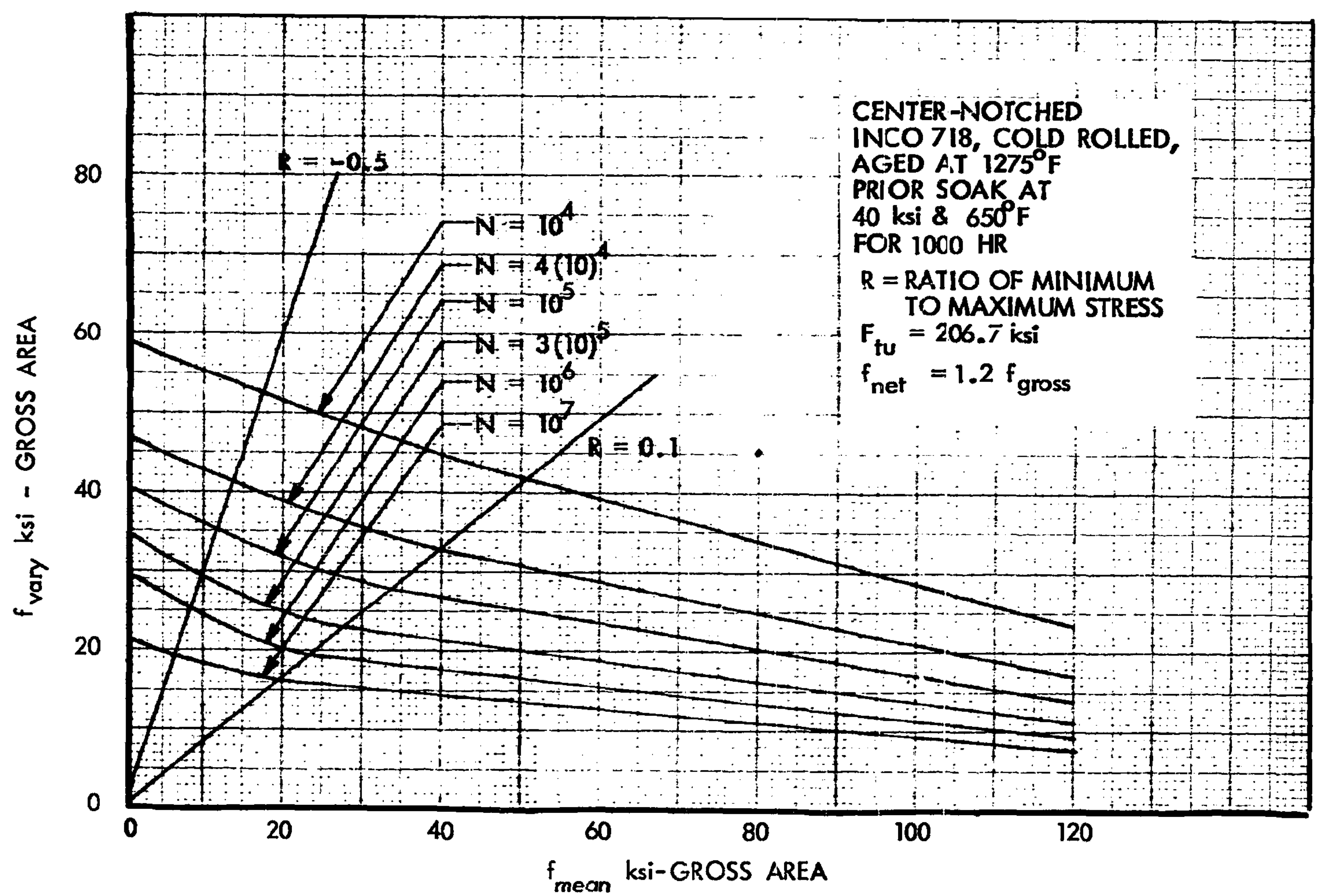


Figure 370. S-N Diagram at 400°F, Center-Nctched INCO 718

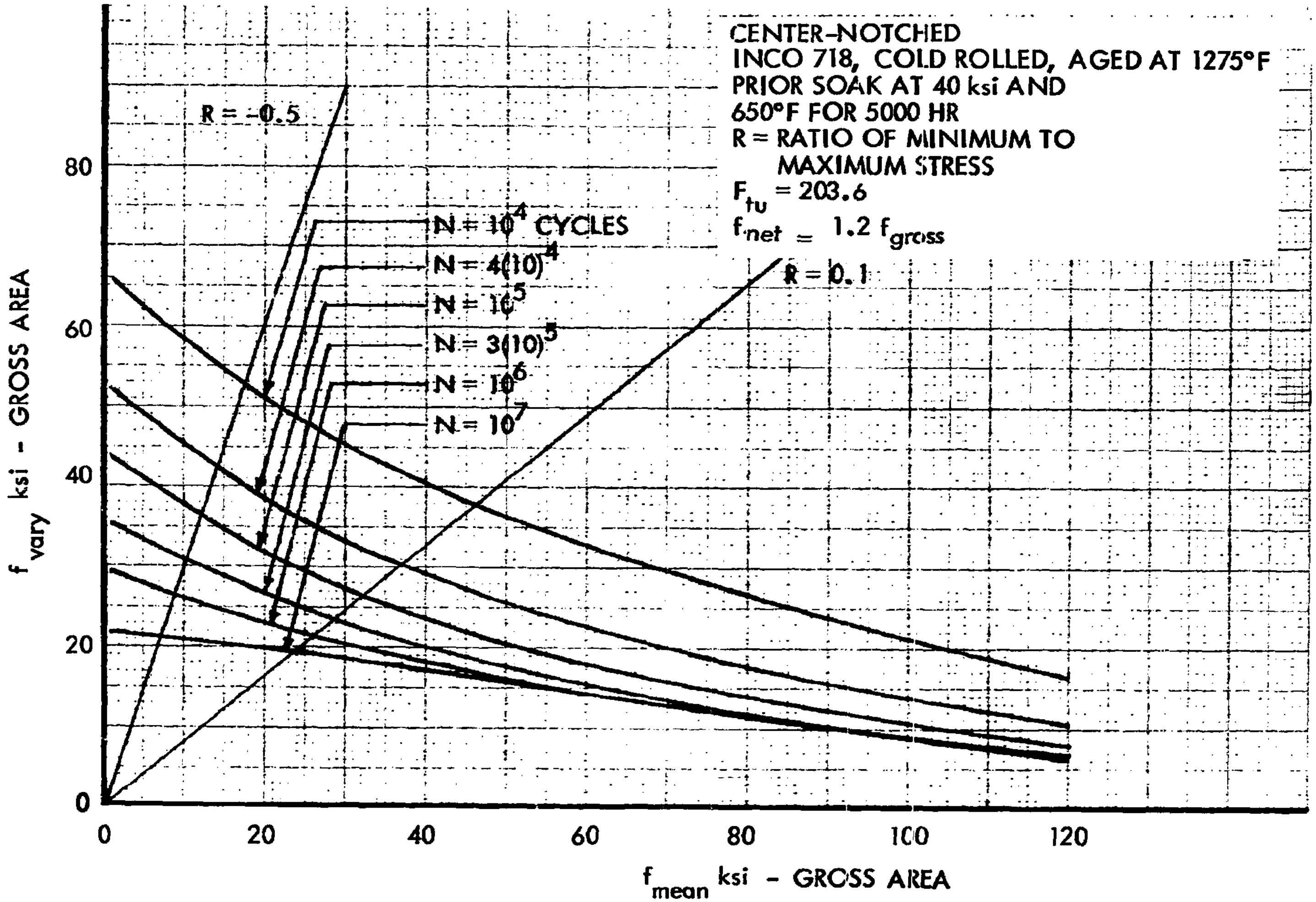


Figure 371. S-N Diagram at 400°F, Center Notched INCO 718

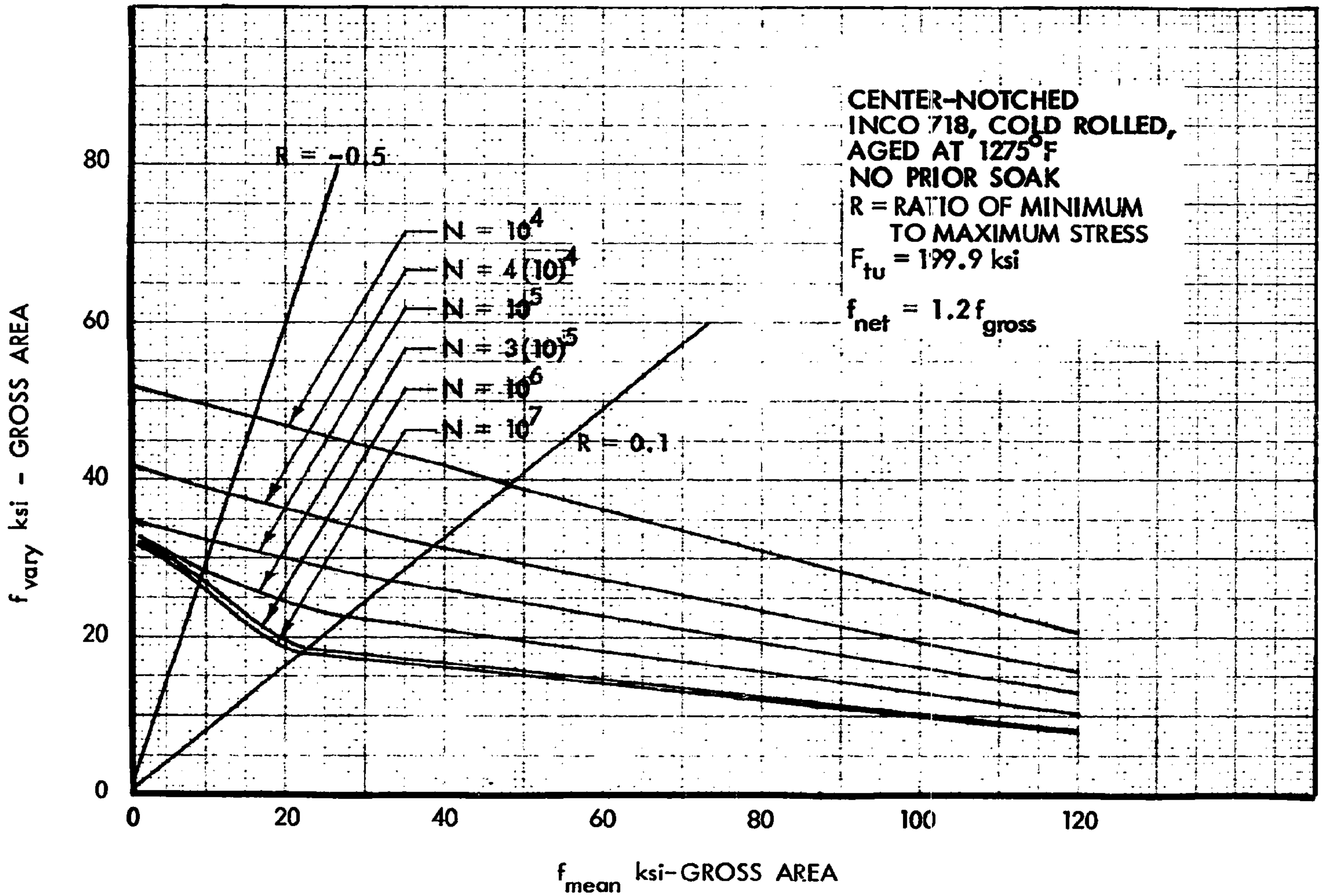


Figure 372. S-N Diagram at 650°F, Center-Notched INCO 718

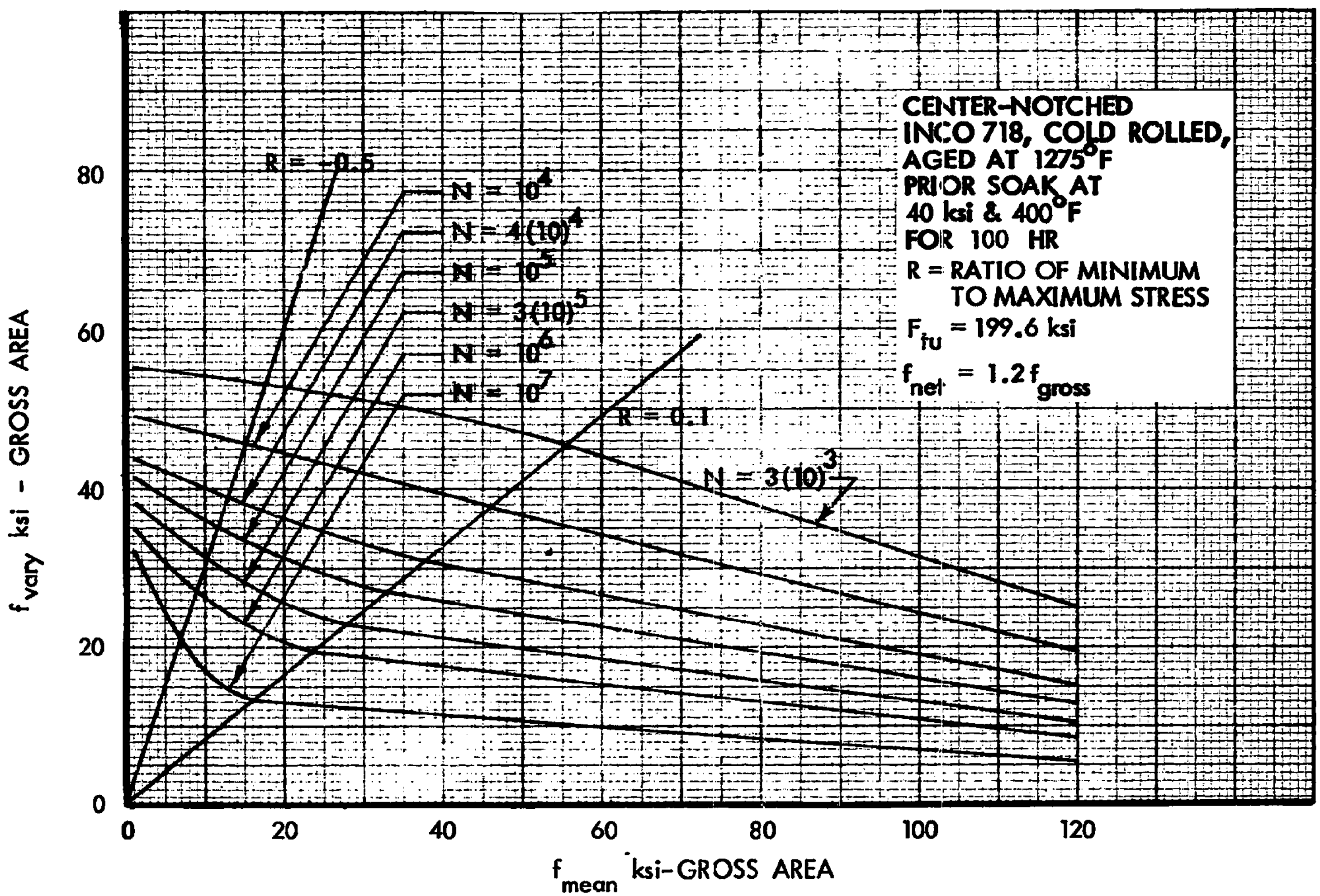


Figure 373. S-N Diagram at 650°F, Center-Notched INCO 718

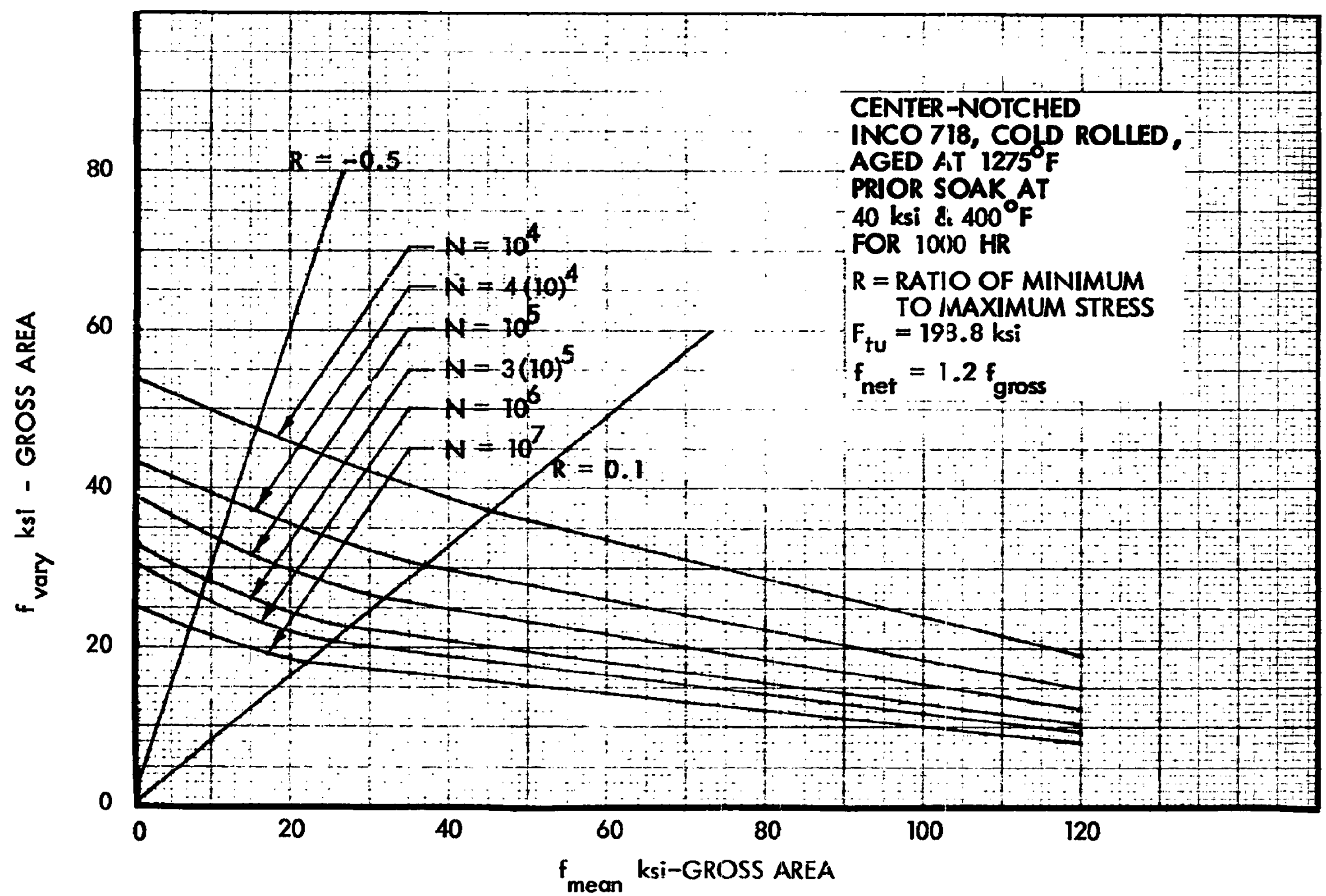


Figure 374. S-N Diagram at 650°F, Center-Notched INCO 718

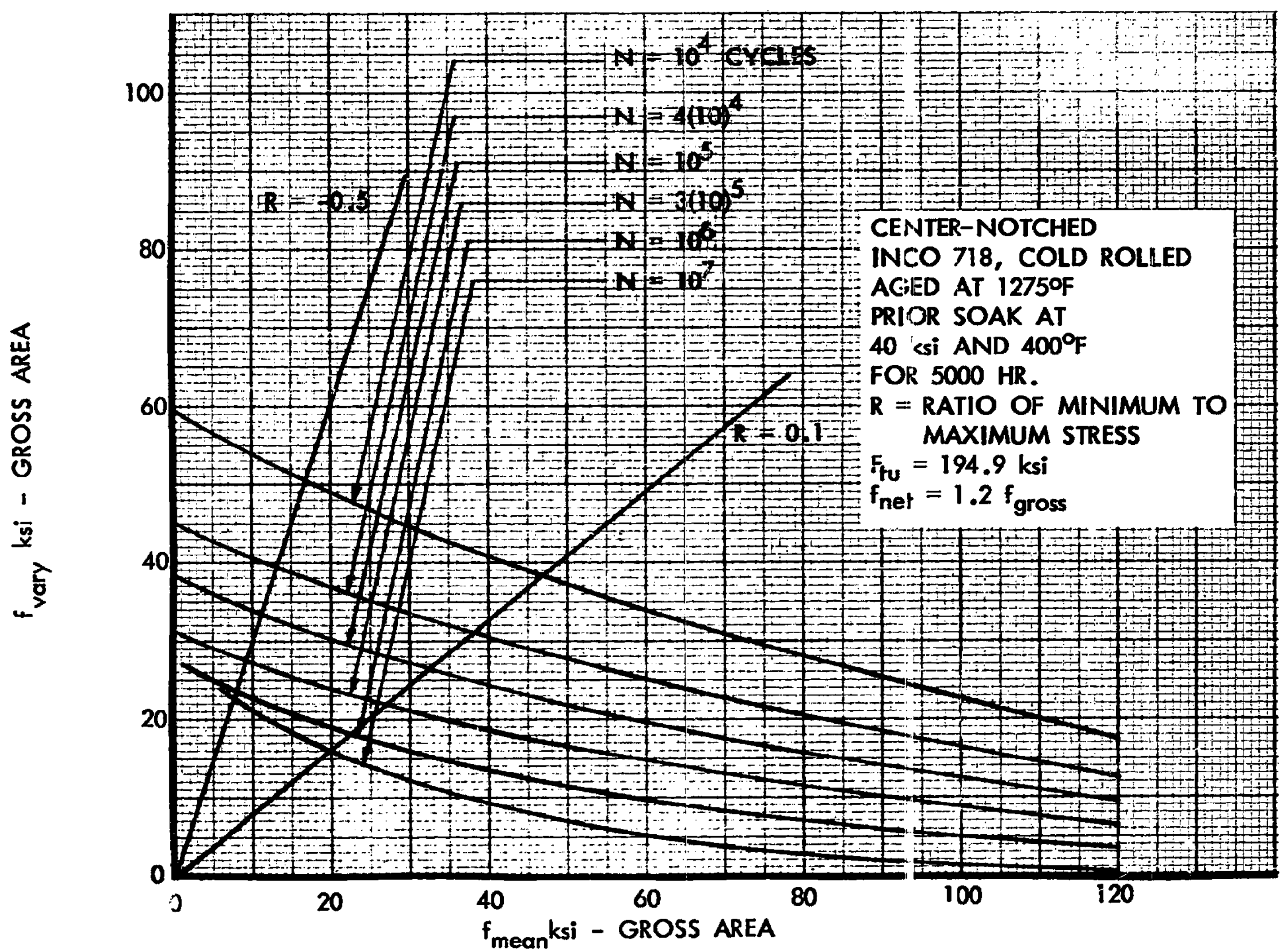


Figure 375. S-N Diagram at 650°F, Center-Notched INCO 718

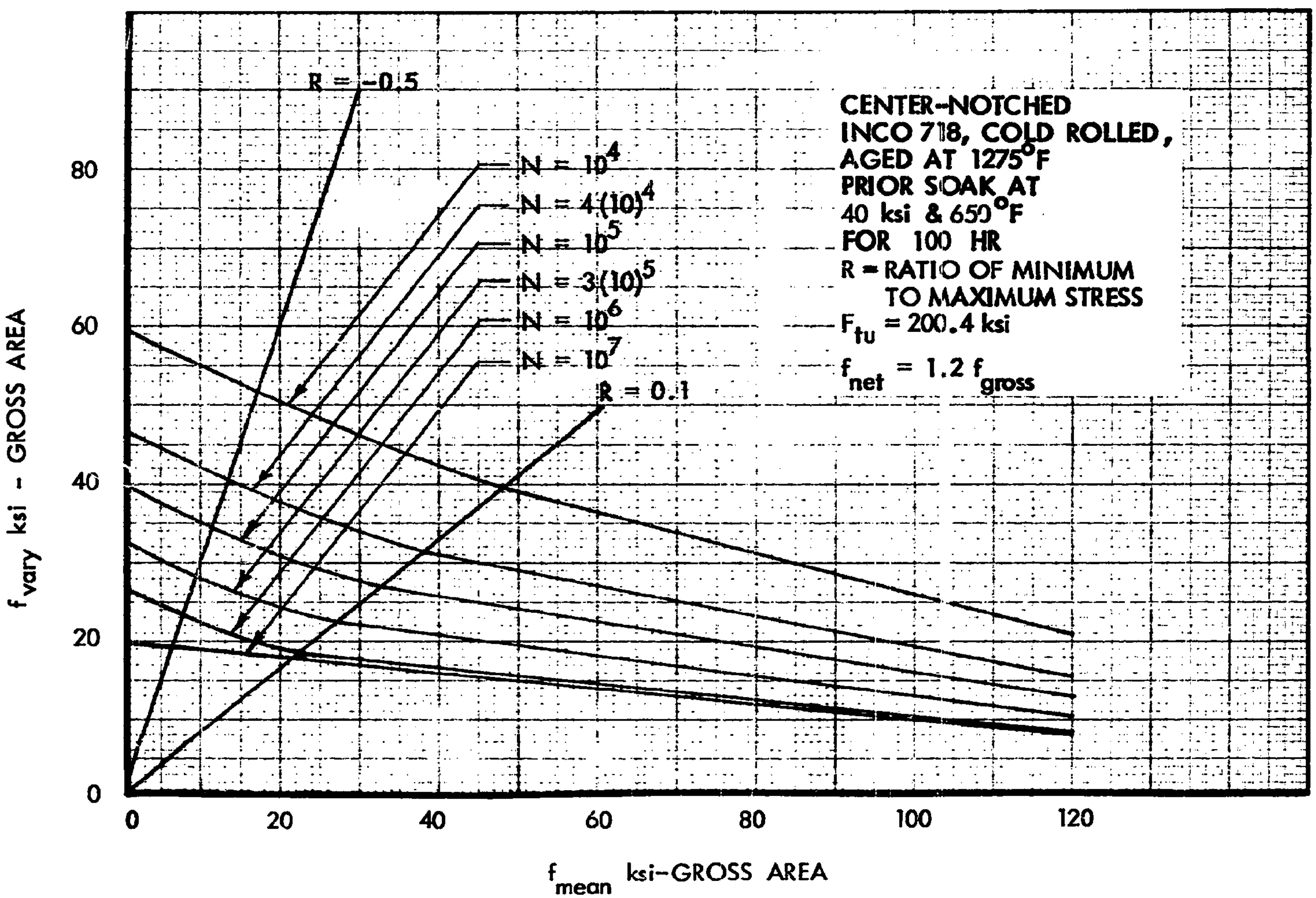


Figure 376. S-N Diagram at 650°F, Center-Notched INCO 718

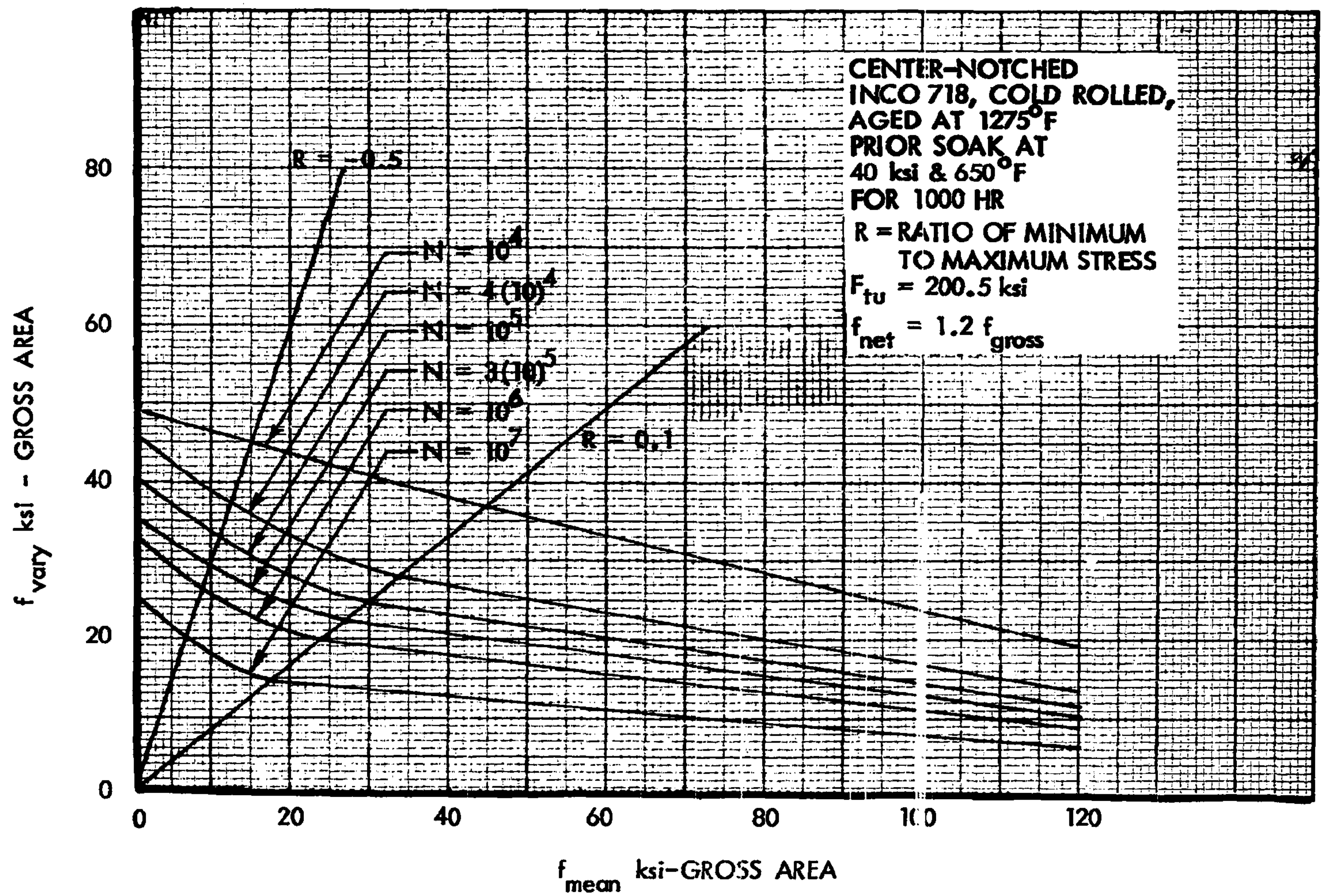


Figure 377. S-N Diagram at 650°F, Center-Notched INCO 718

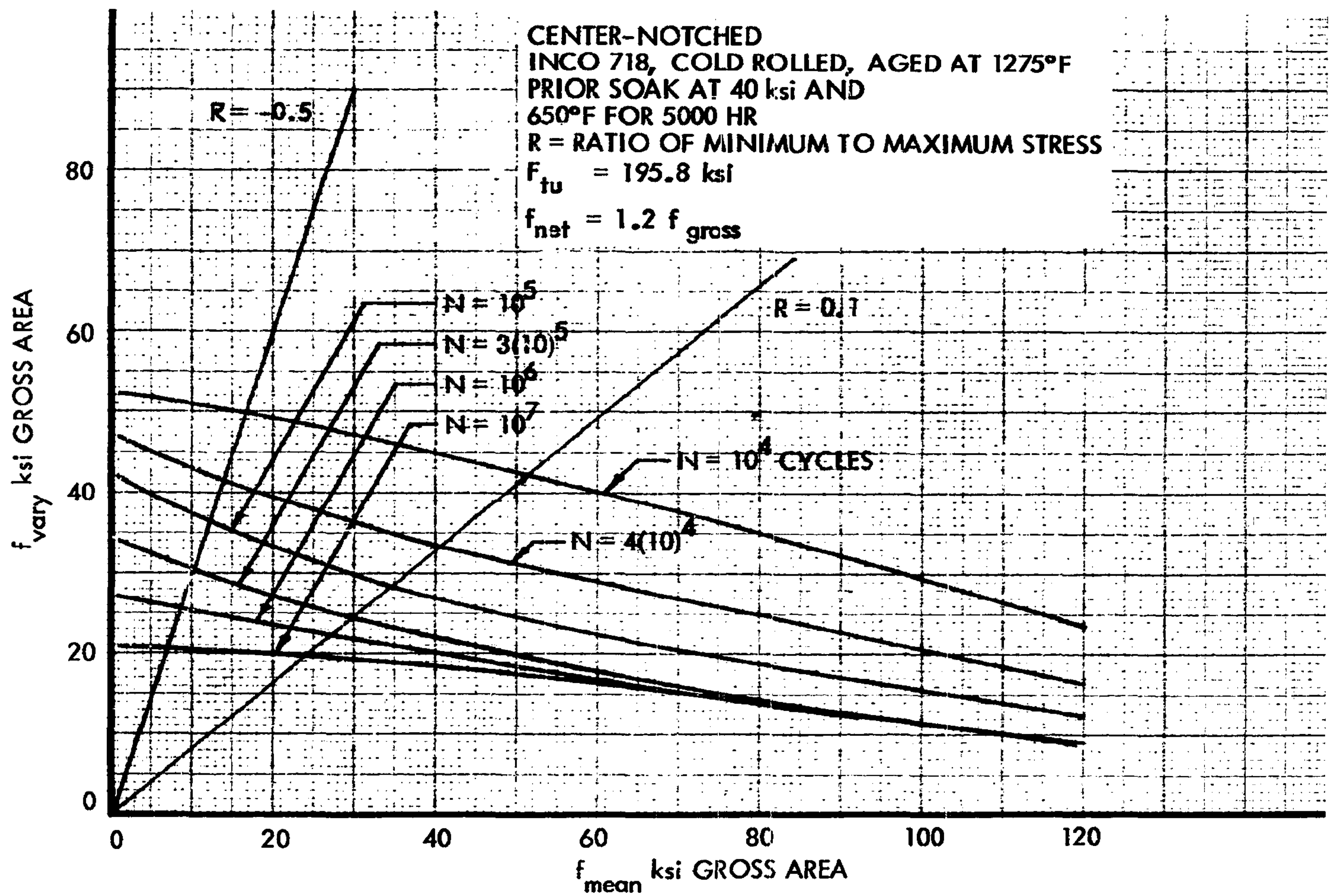


Figure 378. S-N Diagram at 650°F, Center-Notched INCO 718

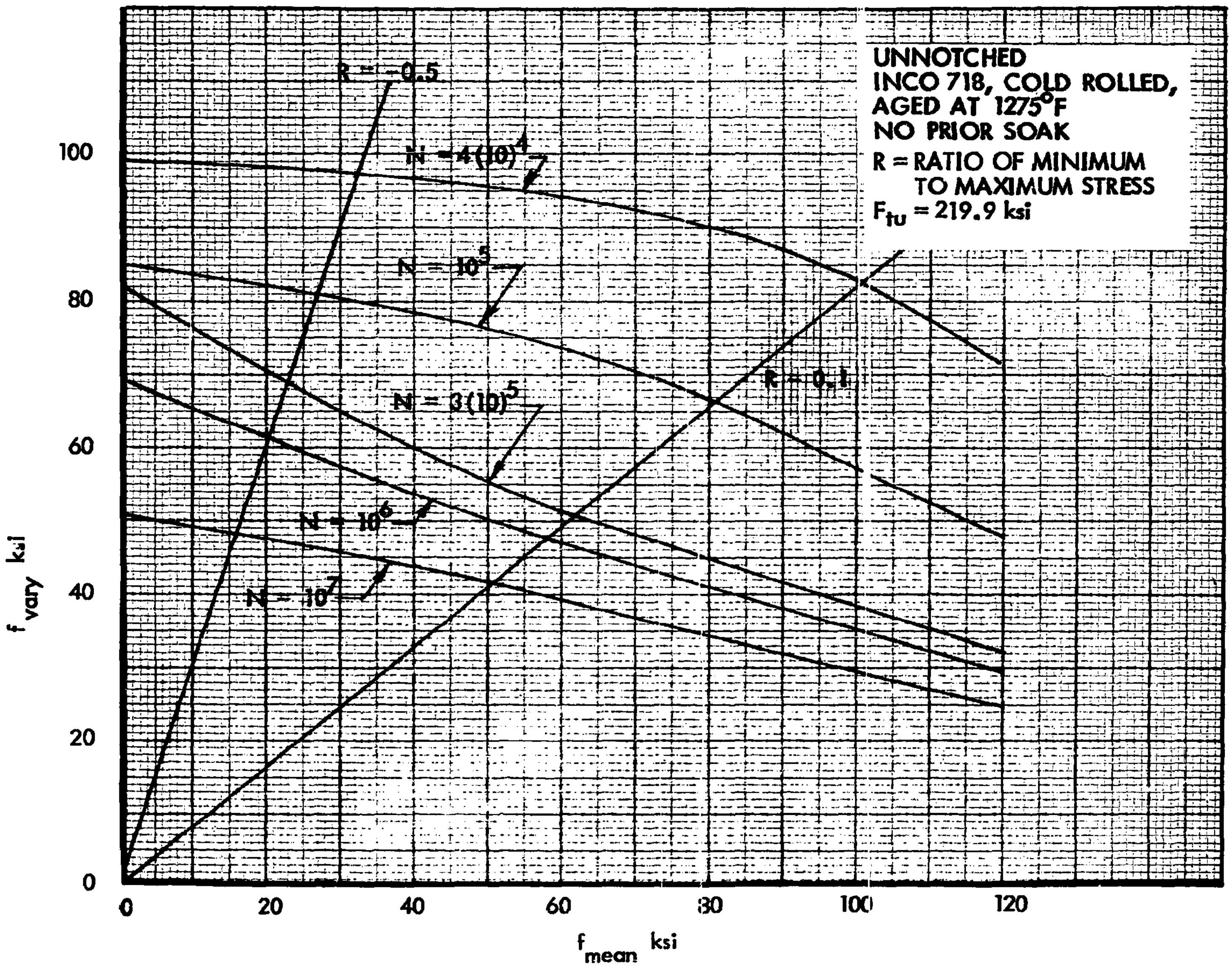


Figure 379. S-N Diagram at Room Temperature, Unnotched INCO 718

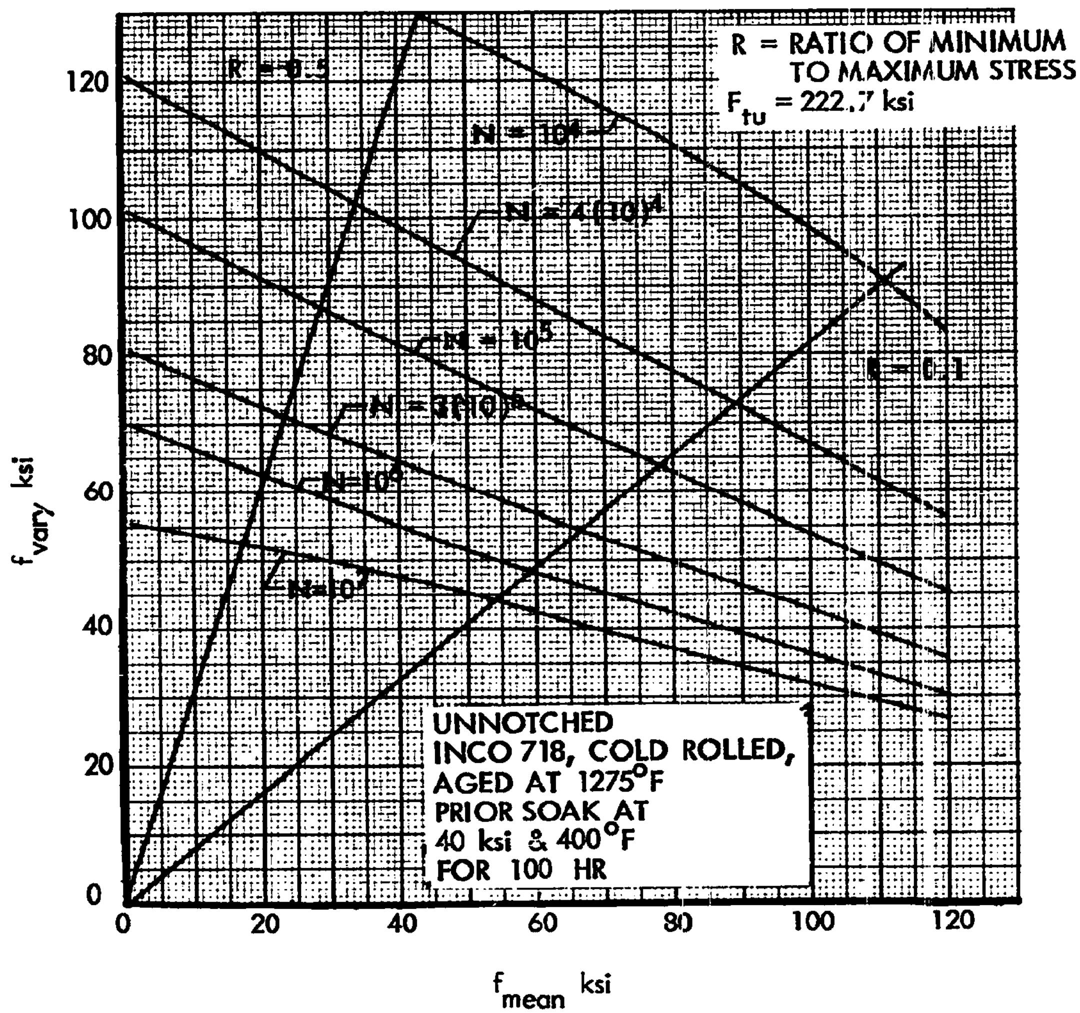
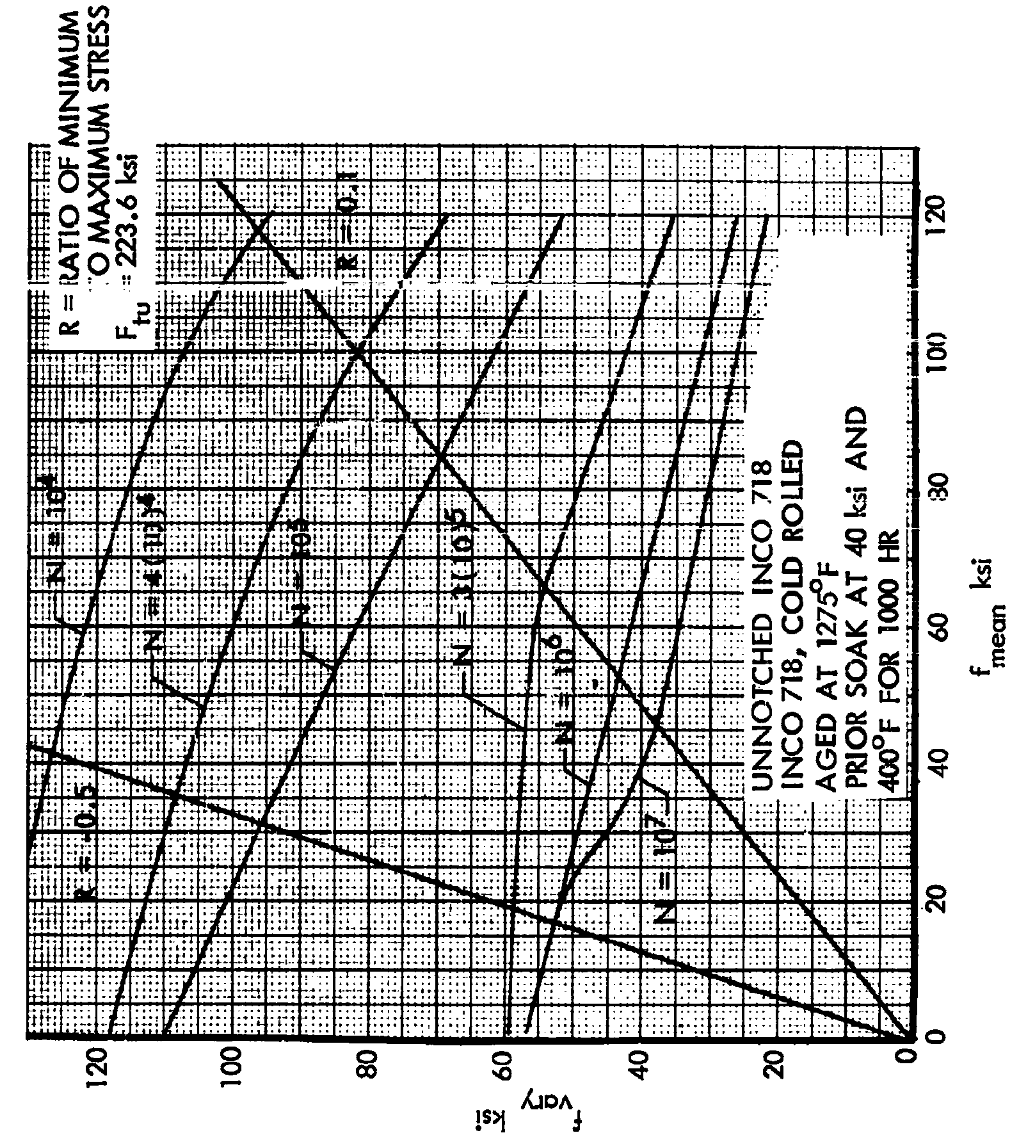


Figure 380. S-N Diagram at Room Temperature, Unnotched INCO 718



R = RATIO OF MINIMUM
TO MAXIMUM STRESS
F_{tu} = 223.6 ksi
UNNOTCHED INCO 718
INCO 718, COLD ROLLED
AGED AT 1275°F
PRIOR SOAK AT 40 ksi AND
400°F FOR 1000 HR
R = -0.5
R = 0.1
N = 10^4
N = $4(10)^4$
N = 10^5
N = $3(10)^5$
N = 10^6
N = 10^7
f_{mean} ksi
f_{vary} ksi
0
20
40
60
80
100
120

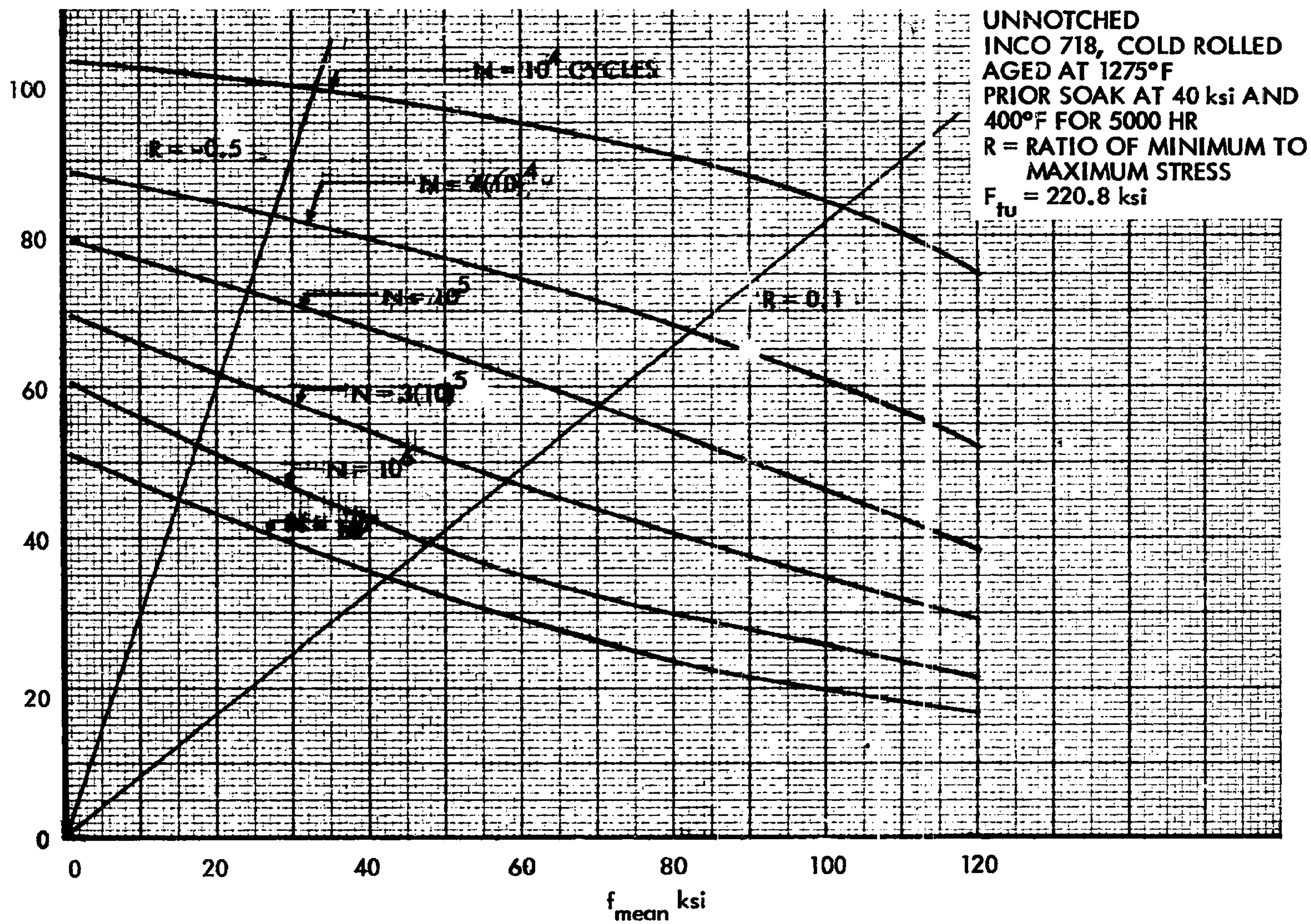


Figure 382. S-N Diagram at Room Temperature, Unnotched INCO 718

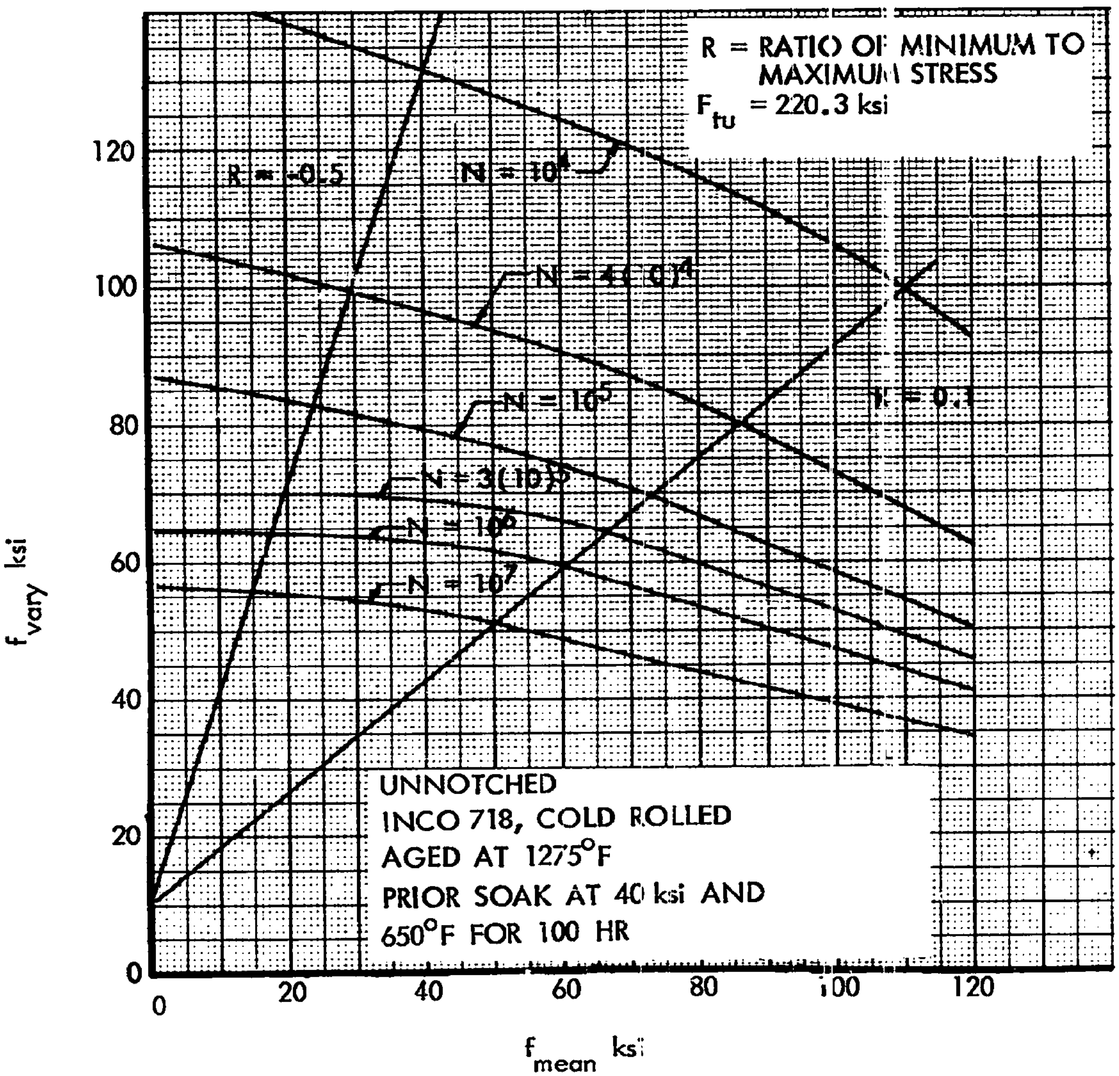


Figure 383. S-N Diagram at Room Temperature, Unnotched INCO 718

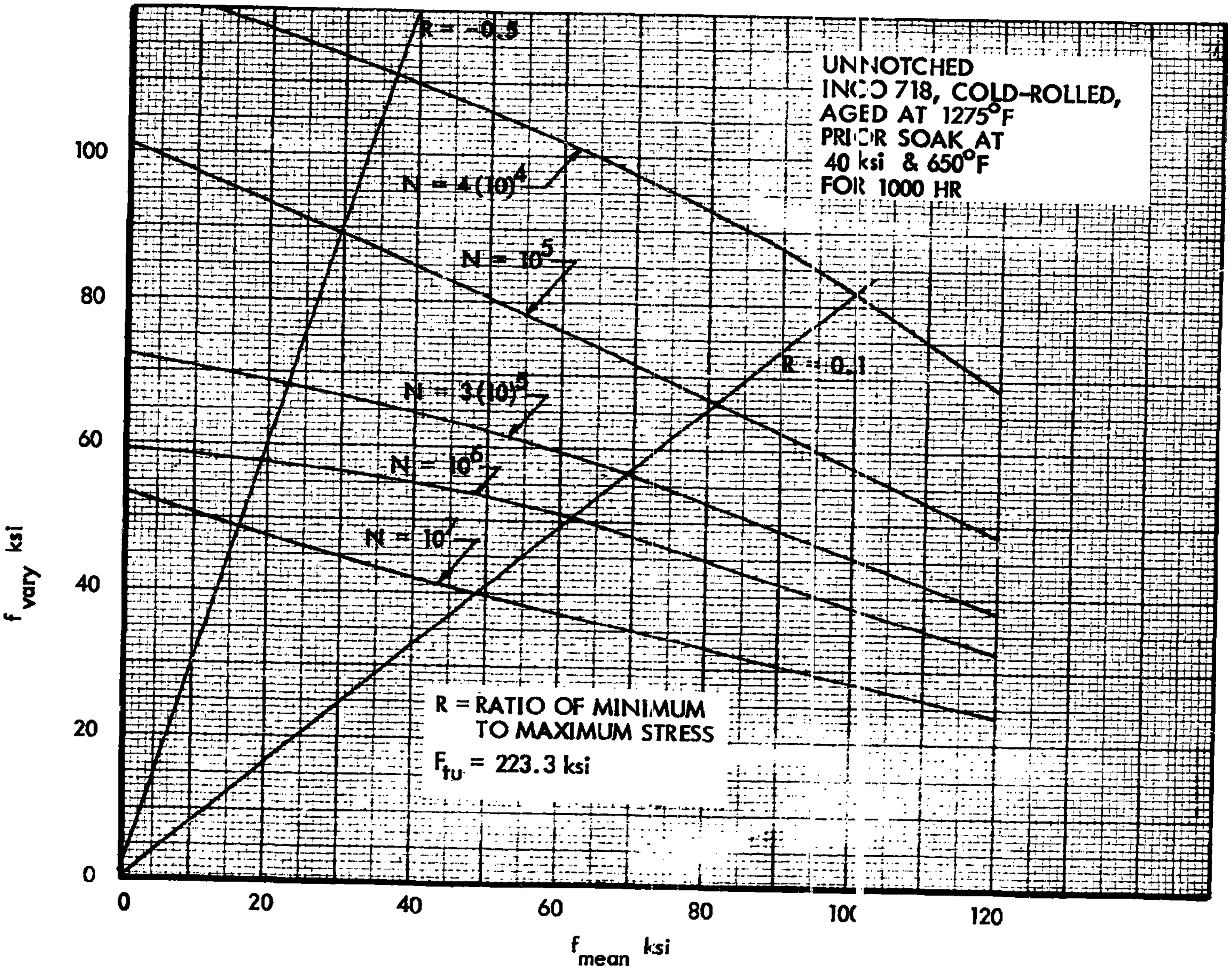


Figure 384. S-N Diagram at Room Temperature, Unnotched INCO 718

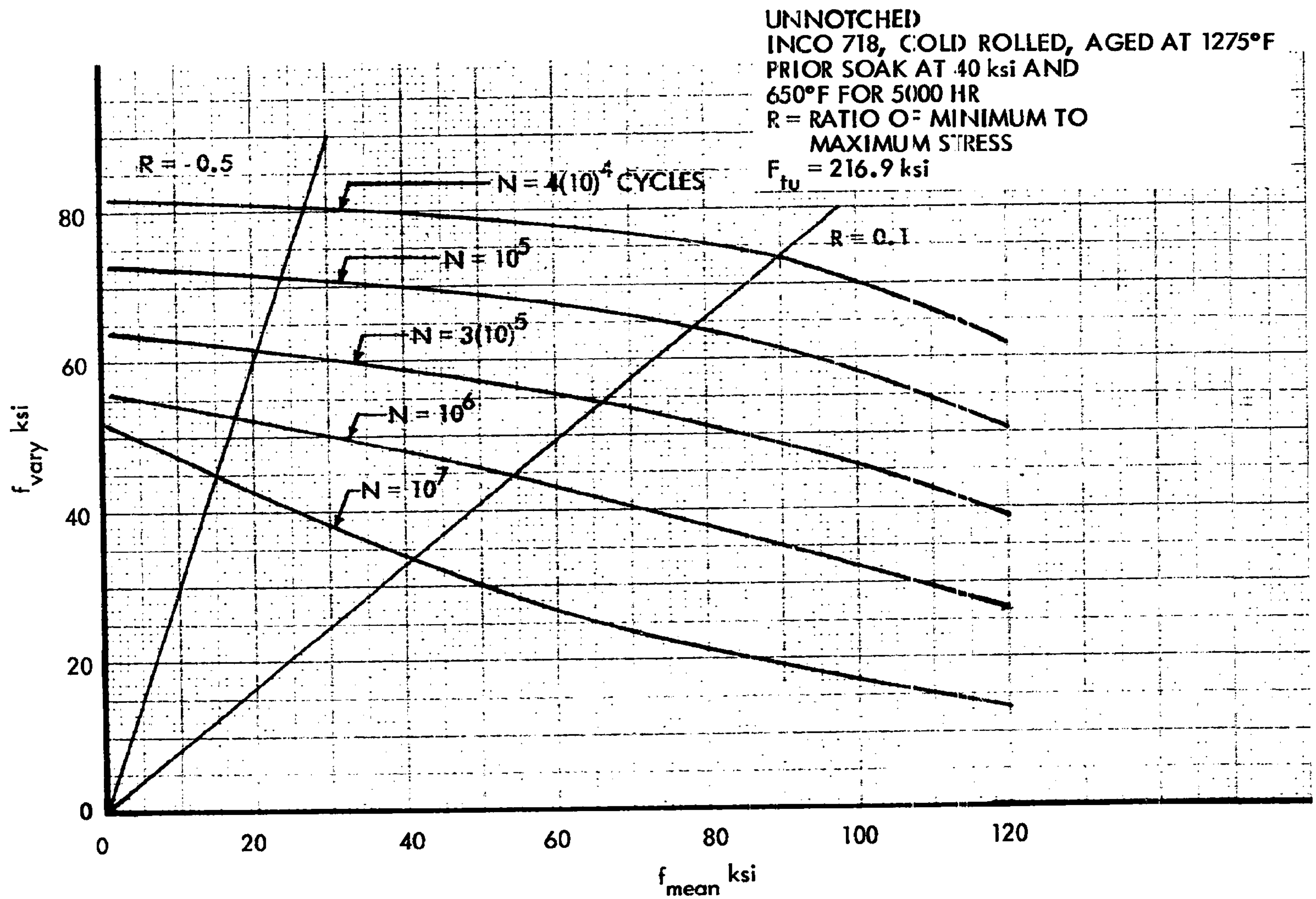


Figure 385. S-N Diagram at Room Temperature, Unnotched INCO 718

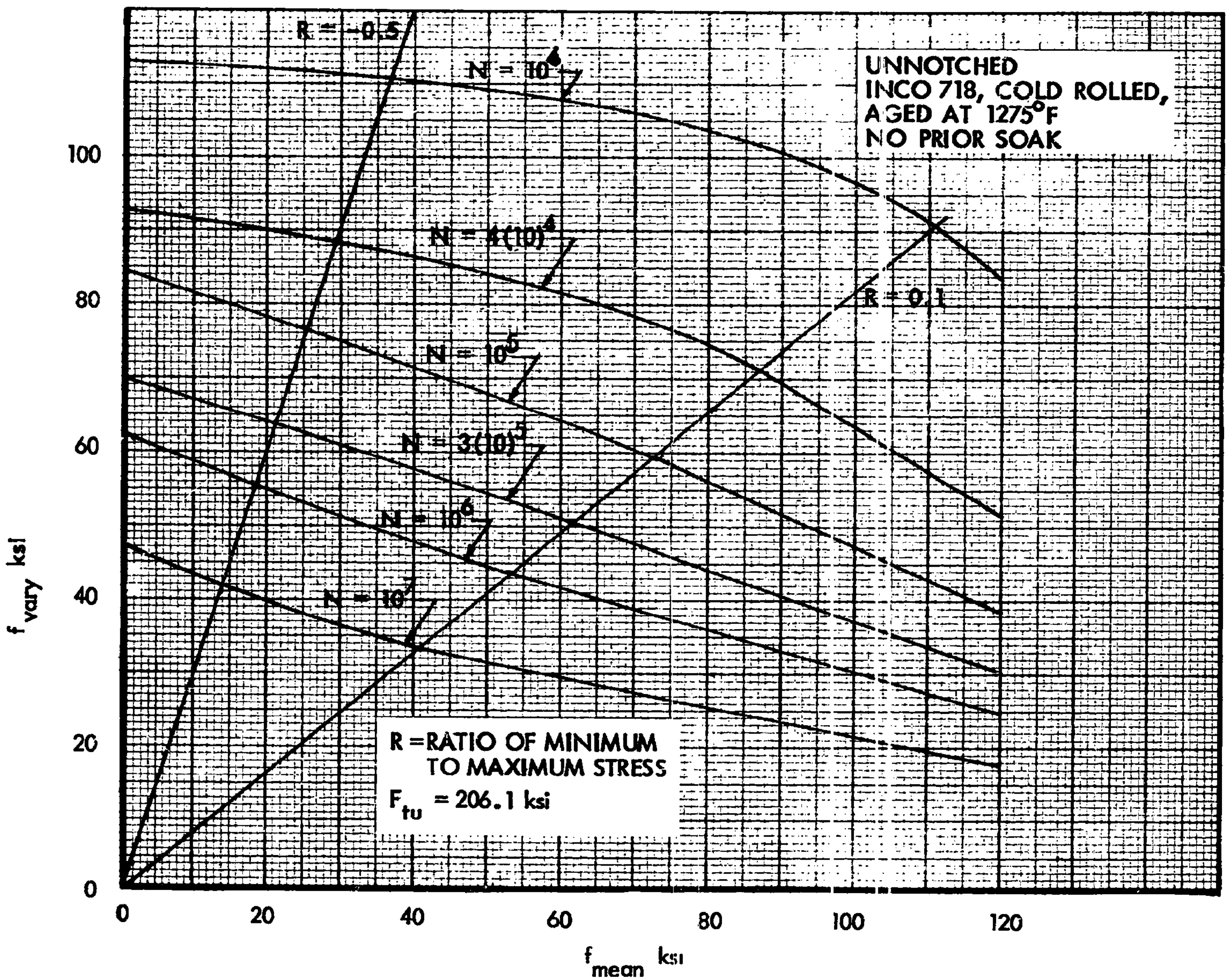


Figure 386. S-N Diagram at 400°F, Unnotched INCO 718

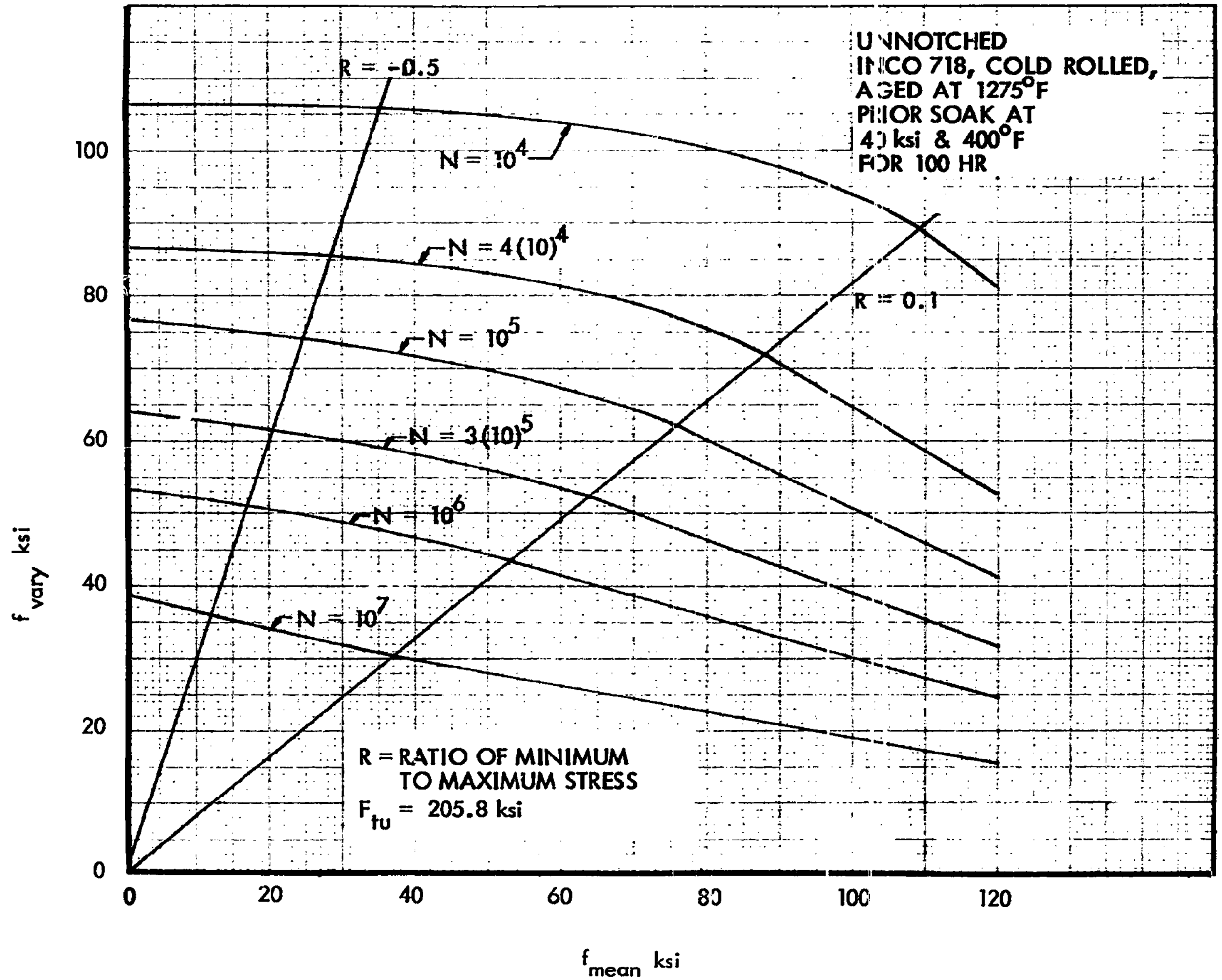


Figure 387. S-N Diagram at 400°F, Unnotched INCO 718

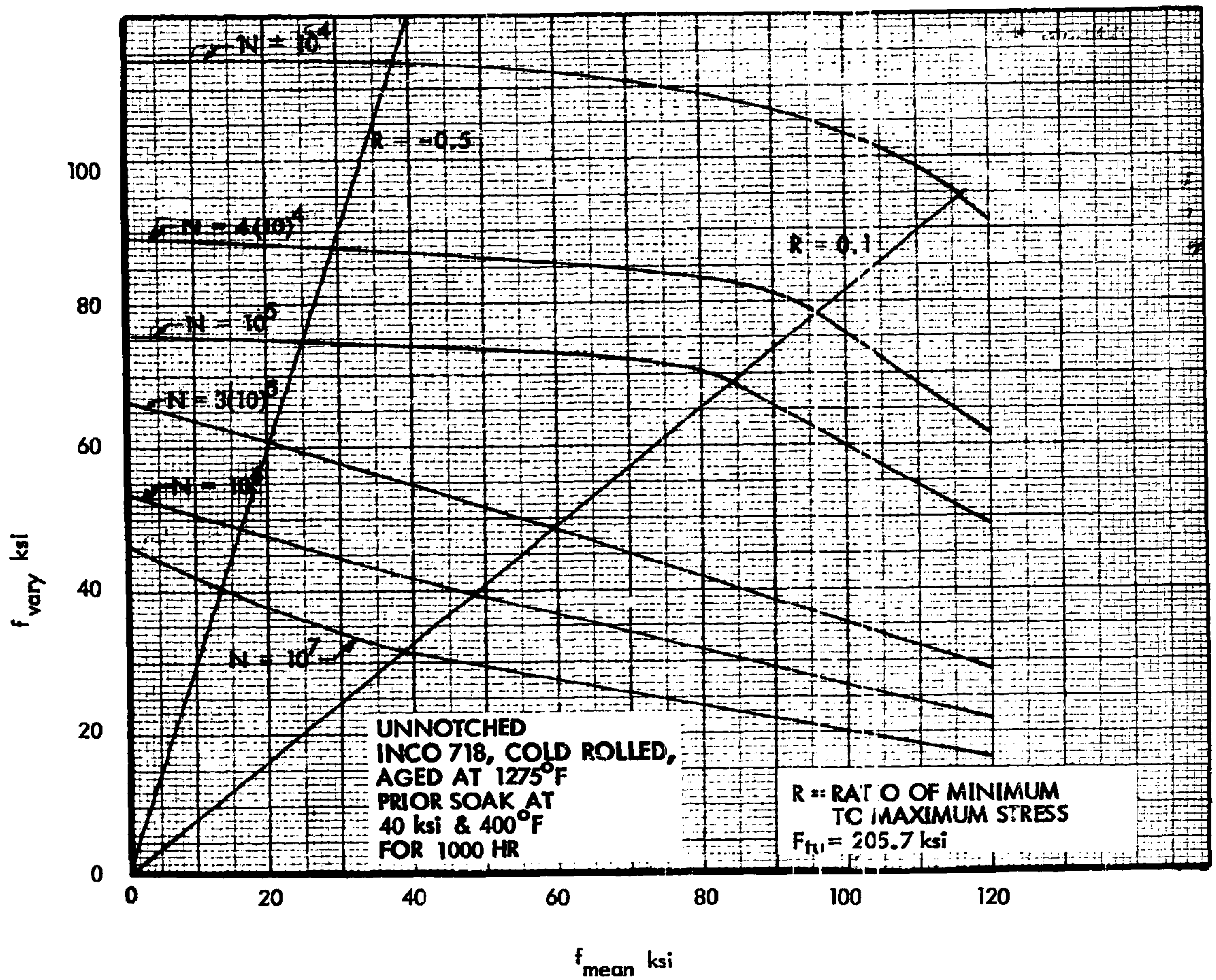


Figure 388. S-N Diagram at 400°F, Unnotched INCO 718

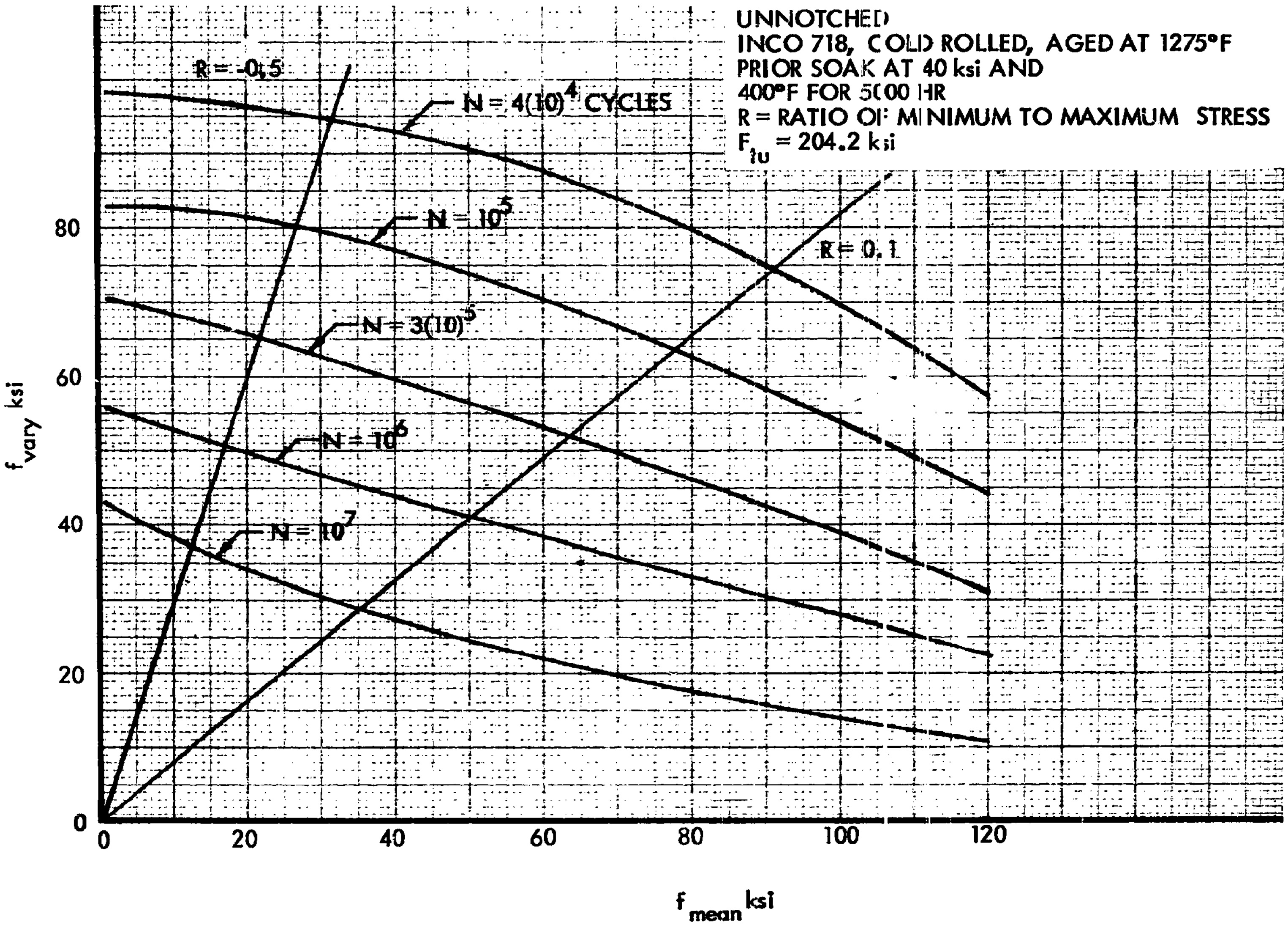


Figure 389. S-N Diagram at 400°F, Unnotched INCO 718

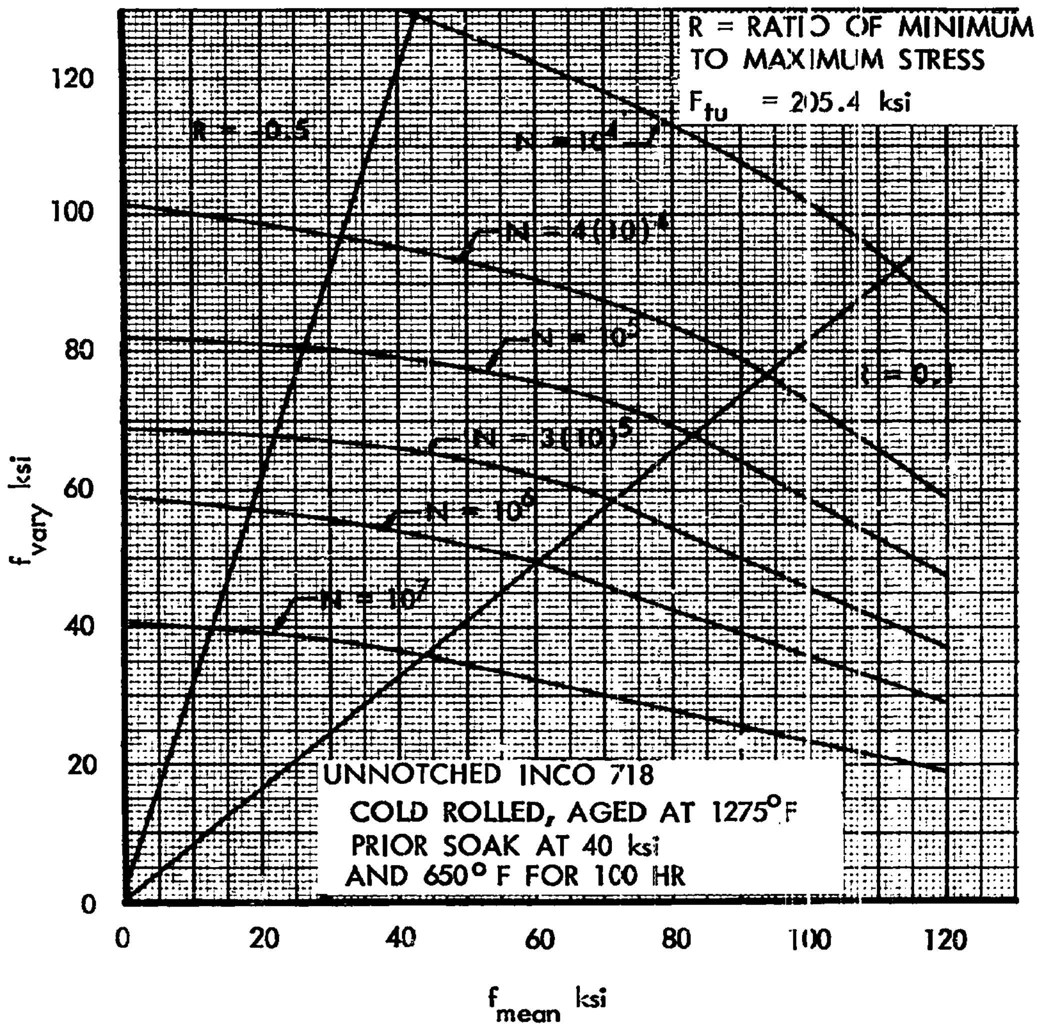


Figure 390. S-N Diagram at 400°F, Unnotched INCO 718

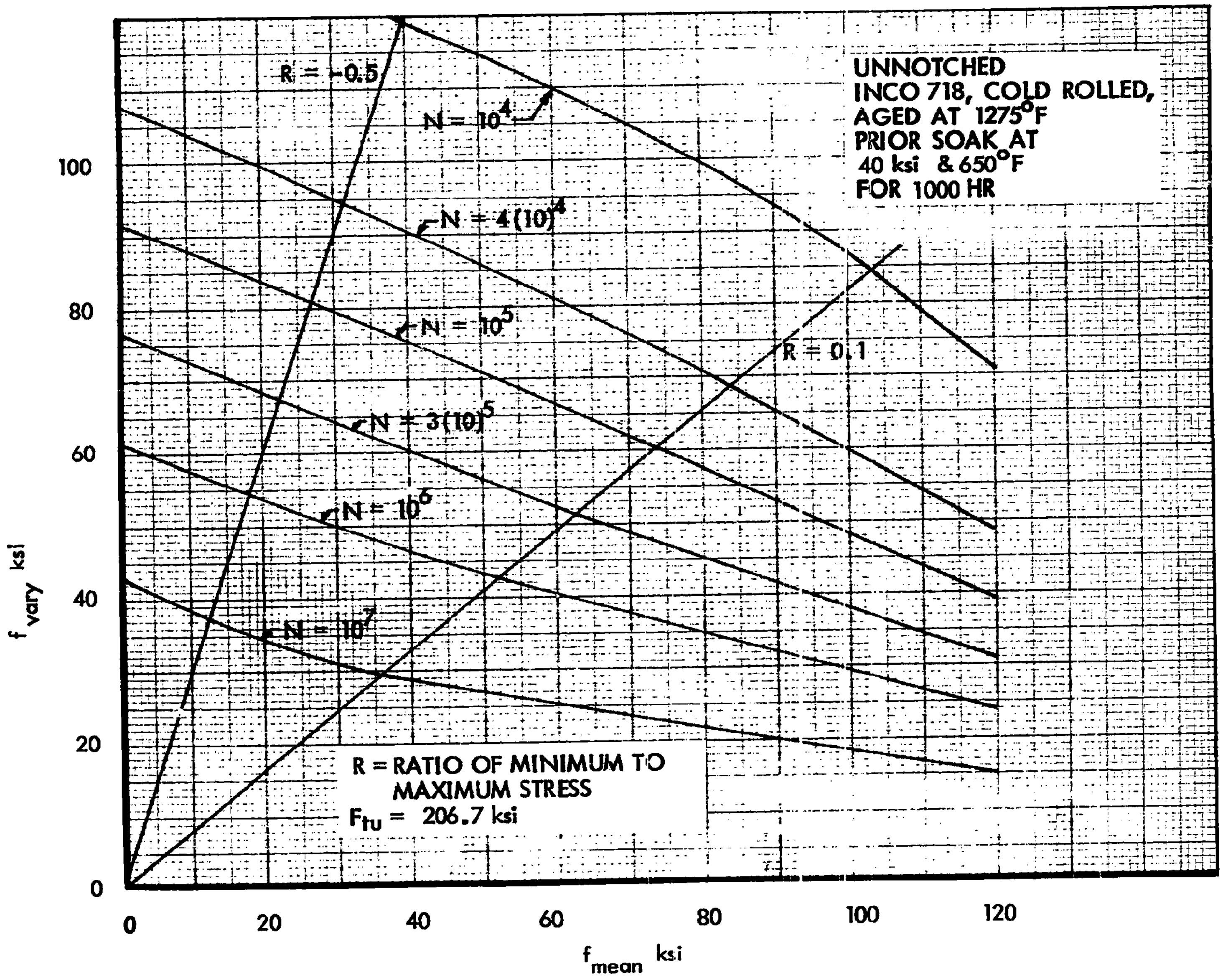


Figure 391. S-N Diagram at 400°F, Unnotched INCO 718

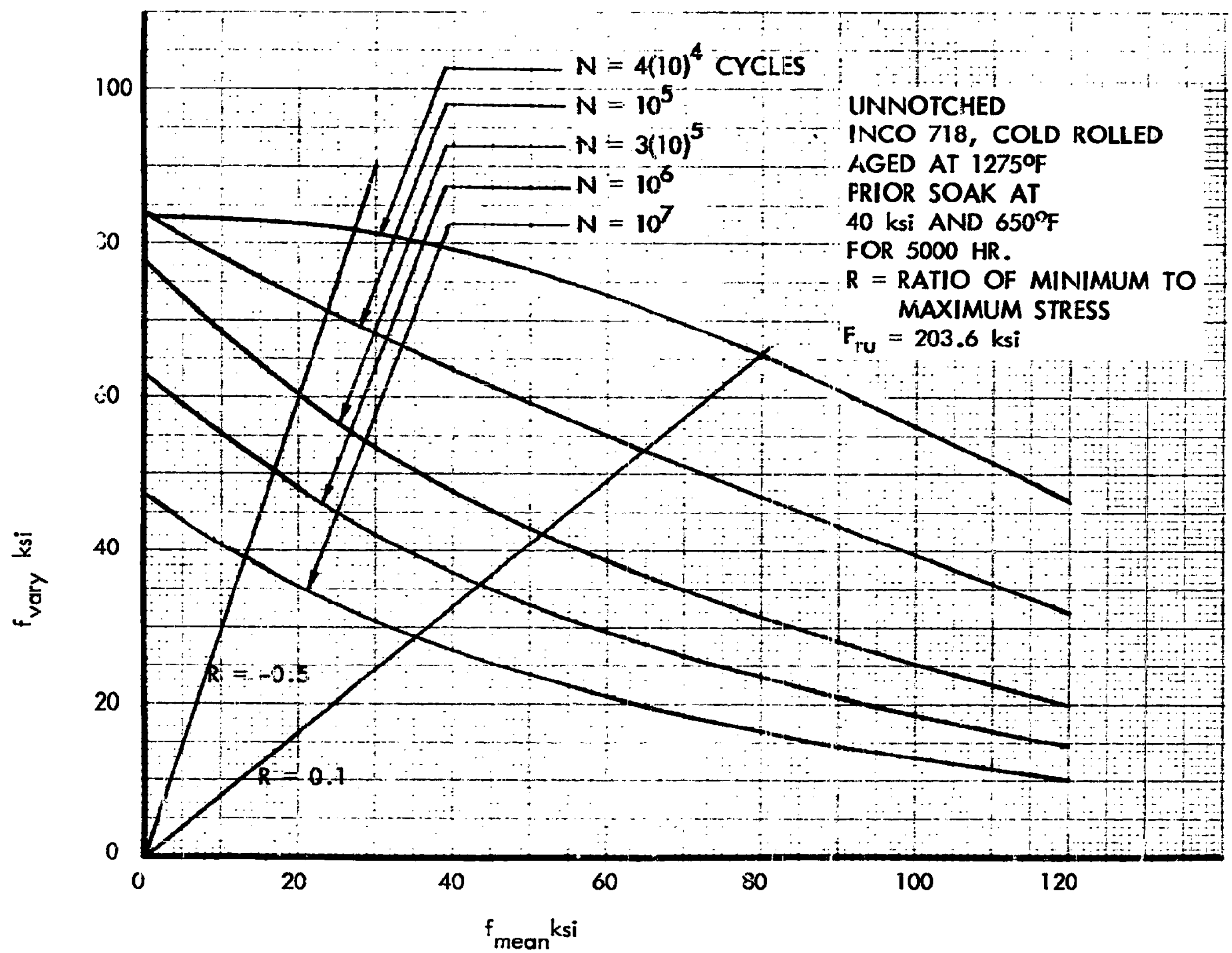


Figure 392. S-N Diagram at 400°F, Unnotched INCO 718

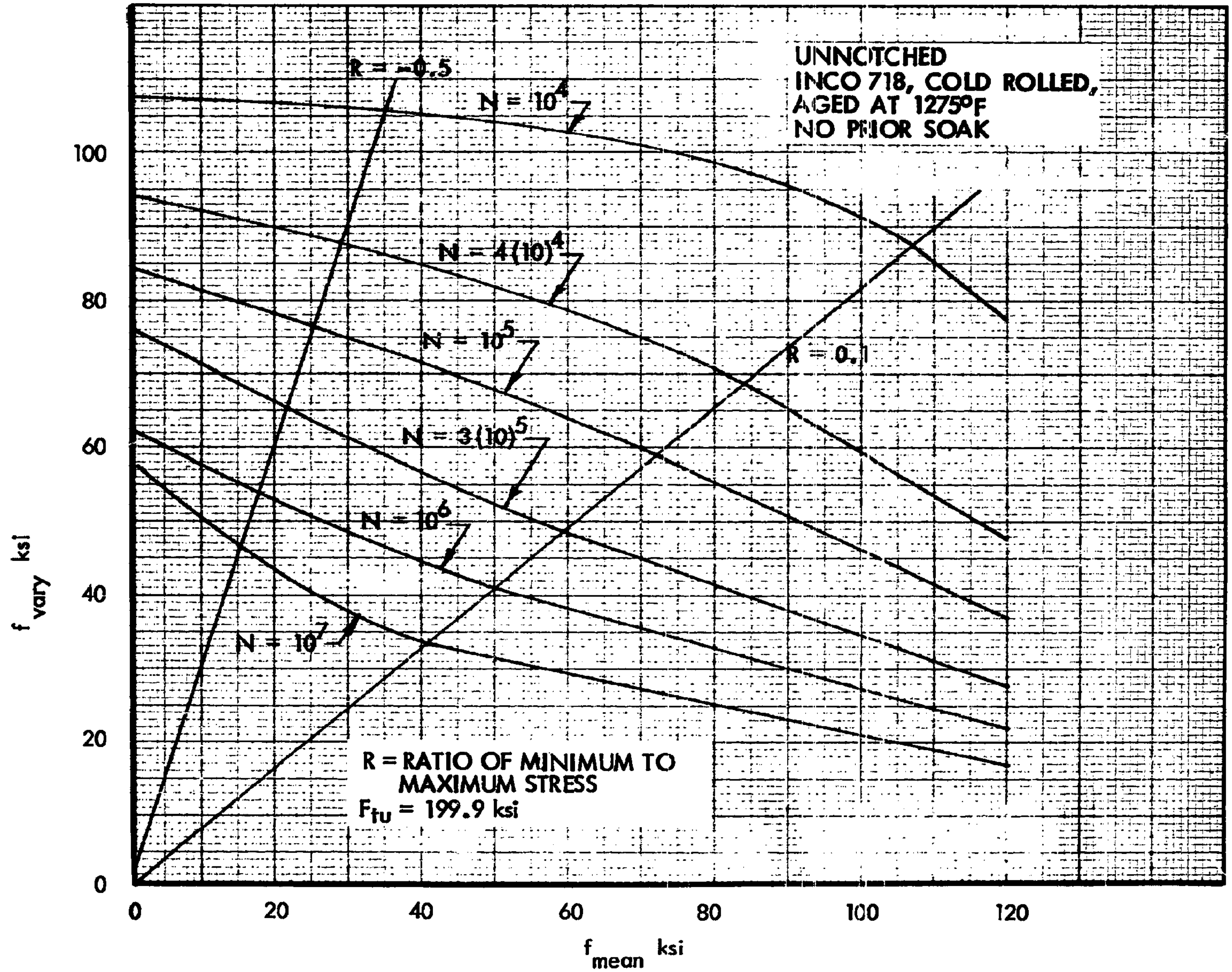


Figure 393. S-N Diagram at 650°F, Unnotched INCO 718

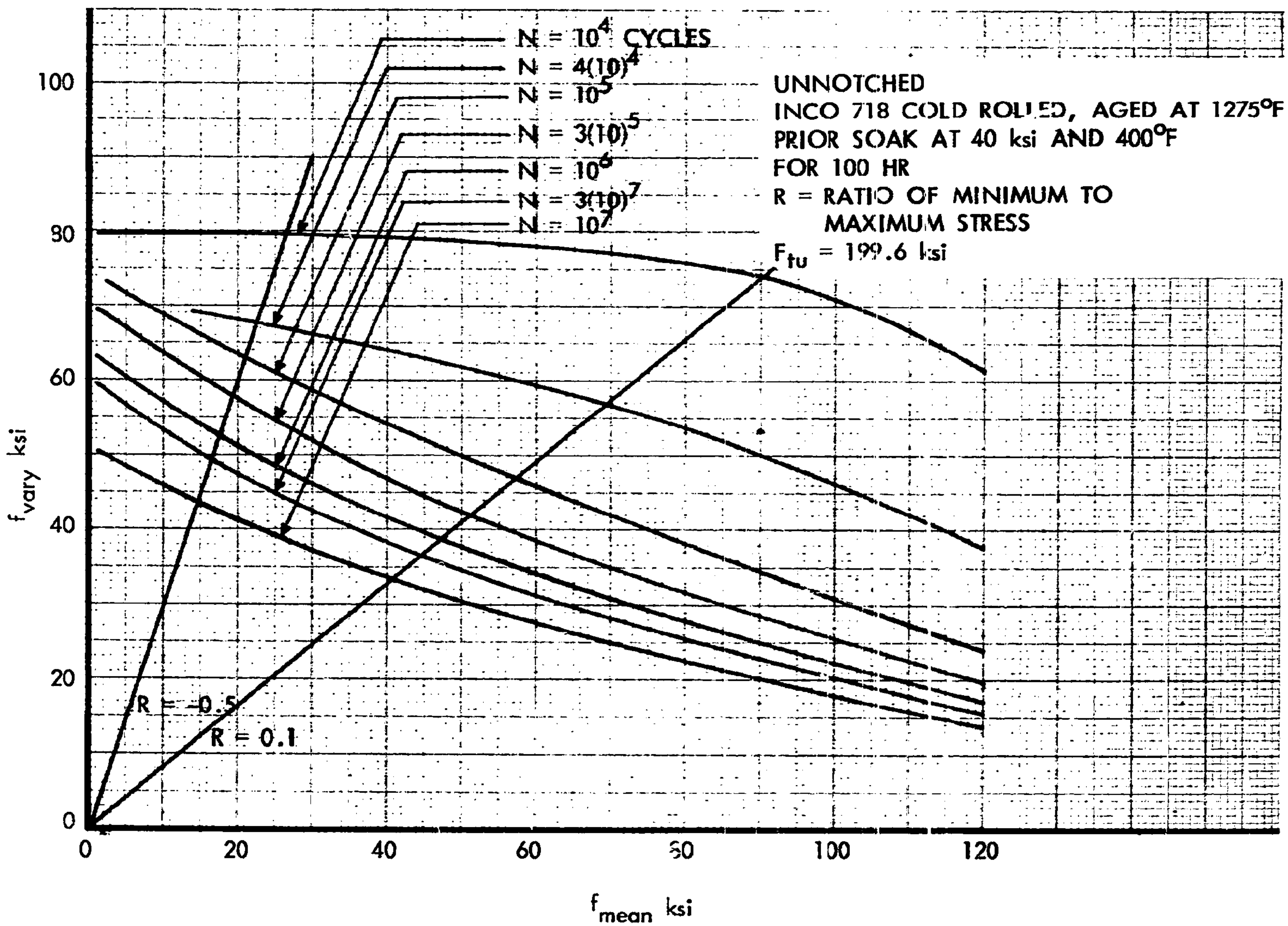


Figure 394. S-N Diagram at 650°F, Unnotched INCO 718

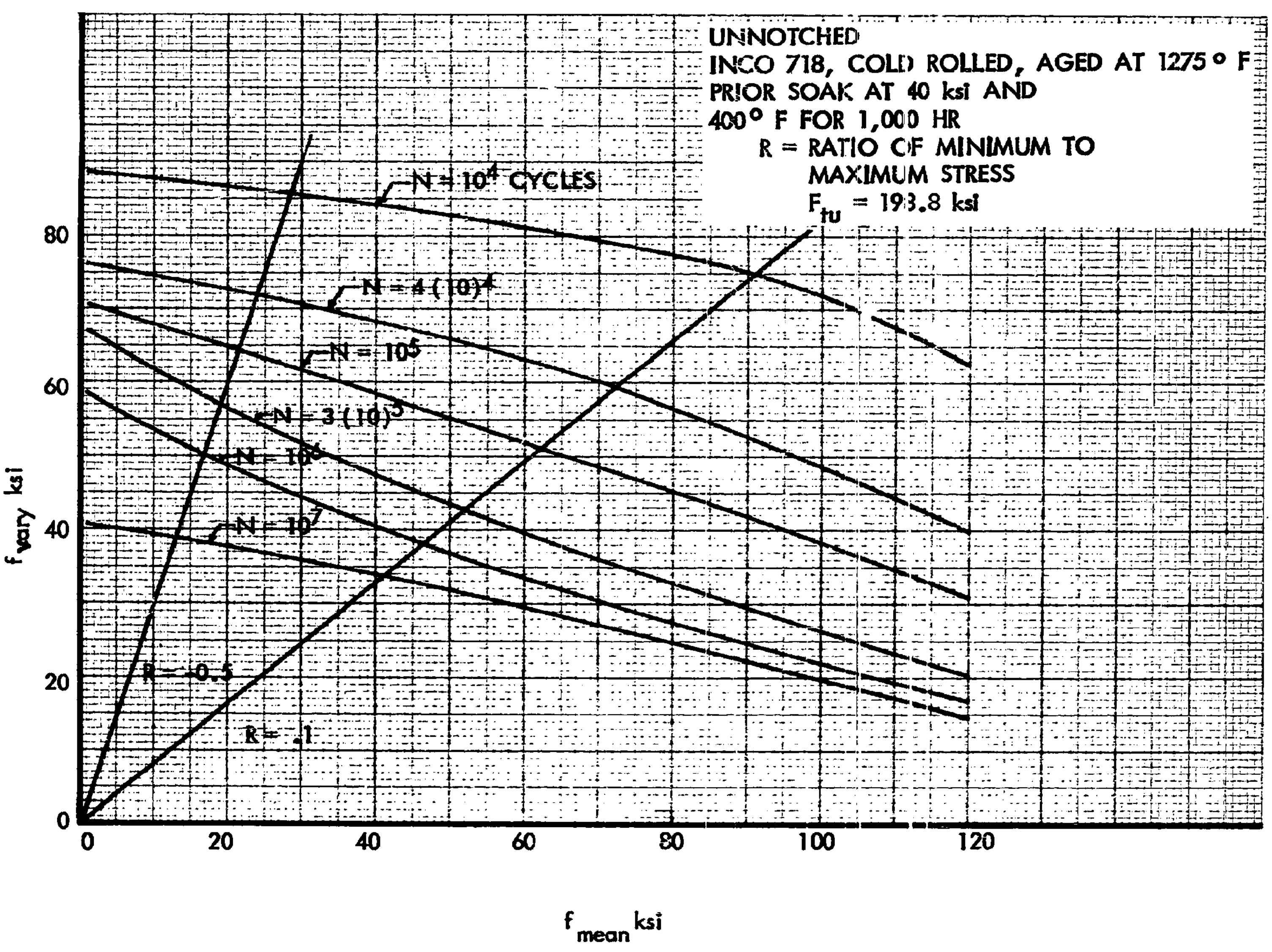


Figure 395. S-N Diagram at 650°F, Unnotched INCO 718

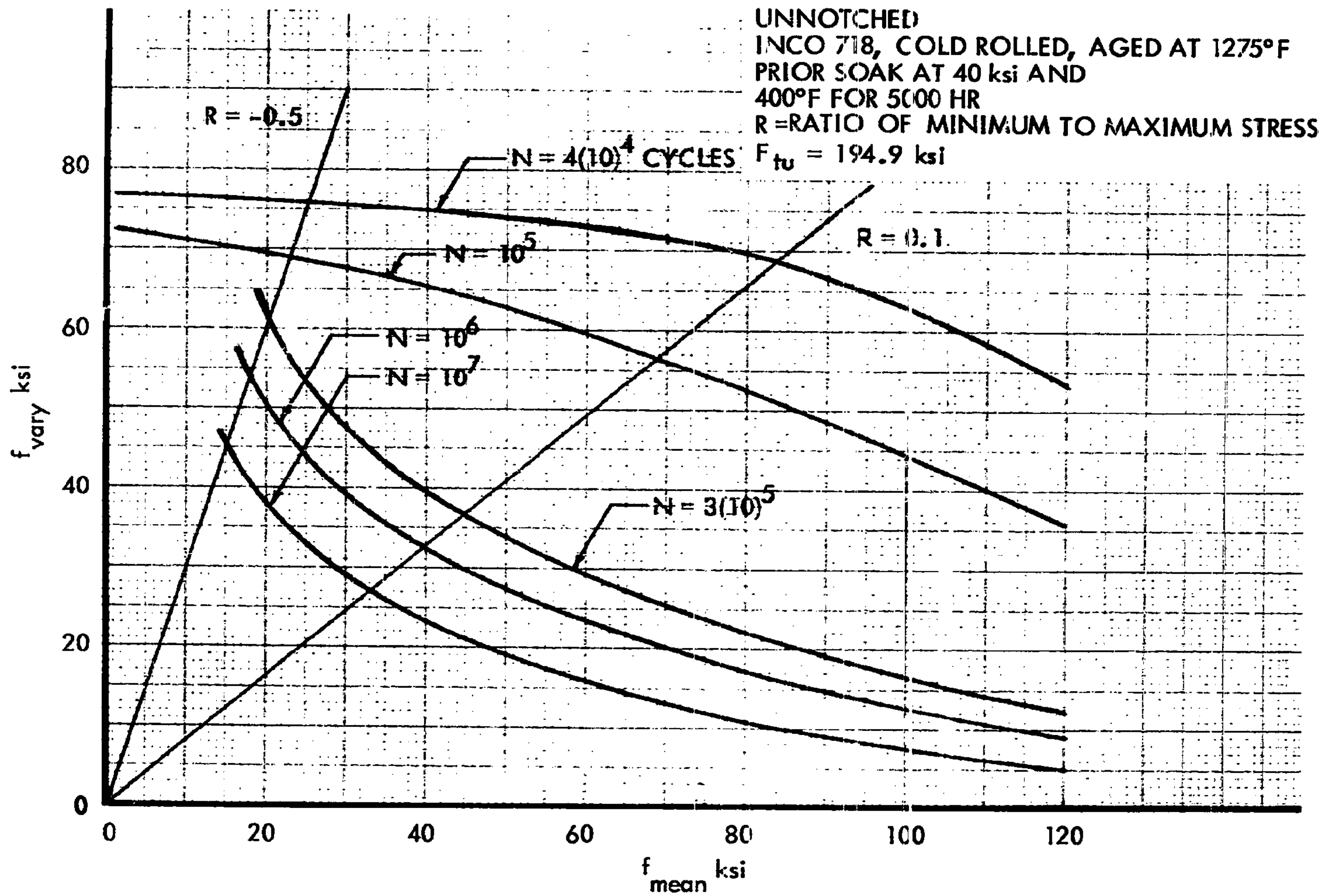


Figure 396. S-N Diagram at 650°F, Unnotched INCO 718

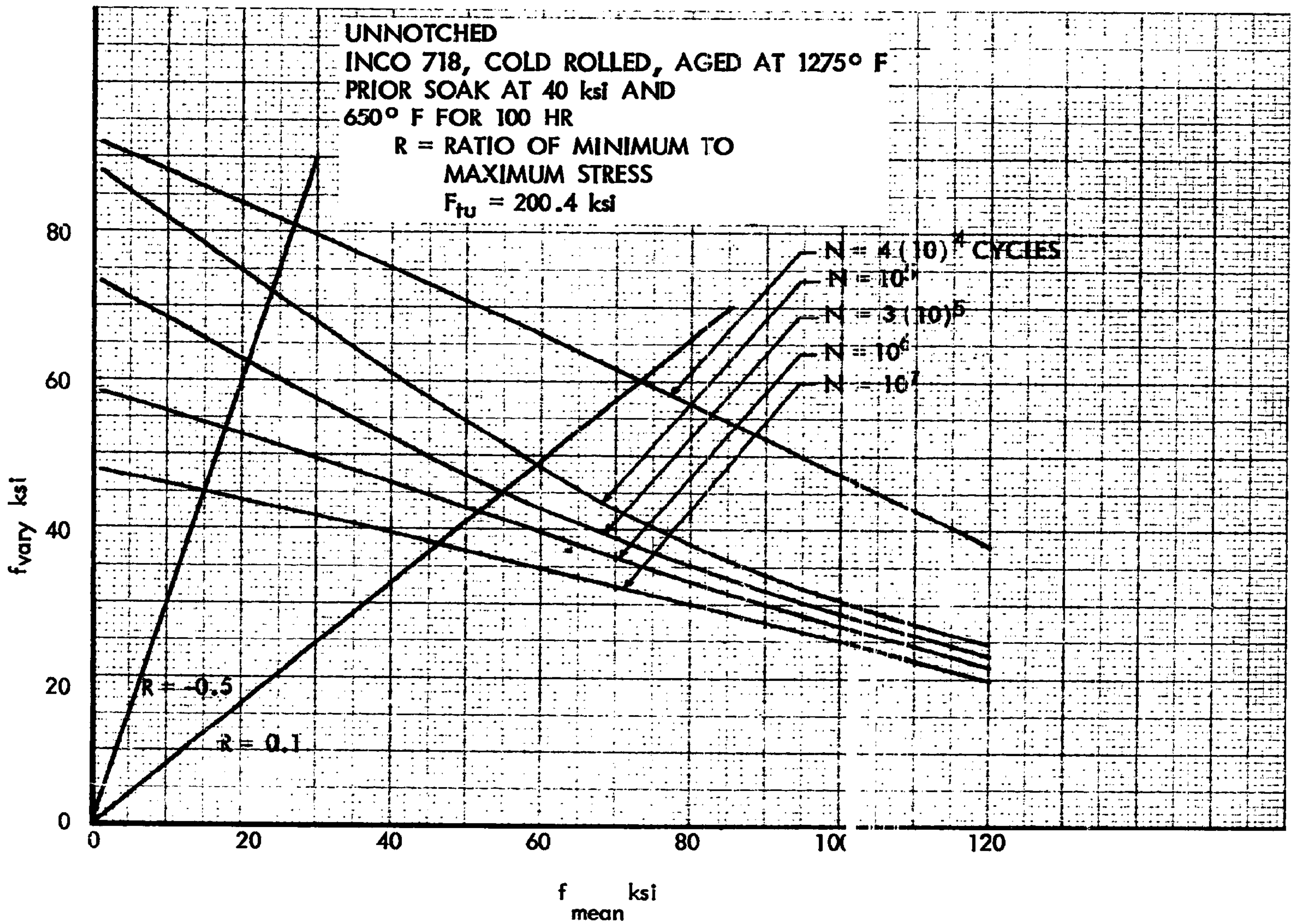


Figure 397. S-N Diagram at 650°F, Unnotched INCO 718

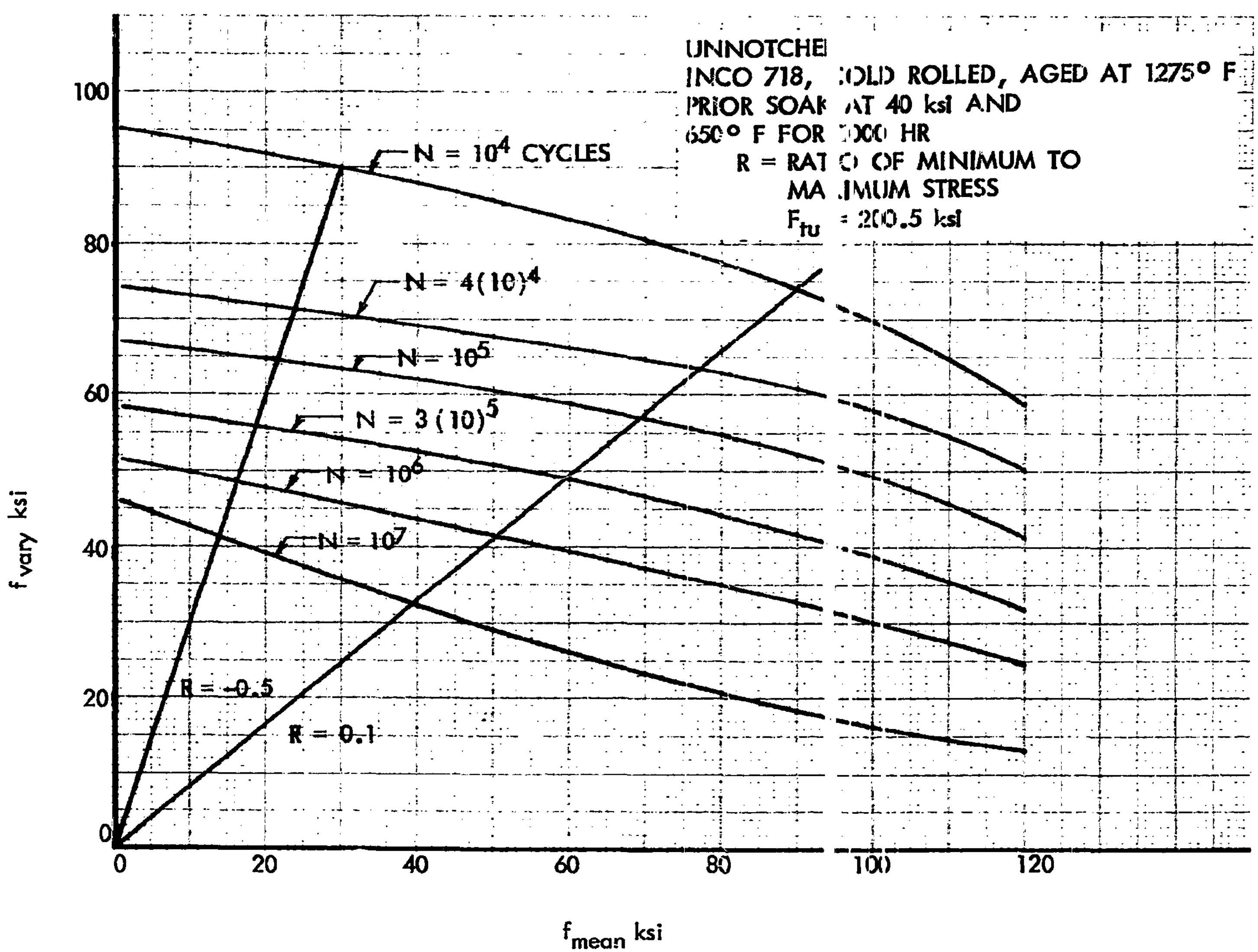


Figure 398. S-N Diagram at 650°F, Unnotched INCO 718

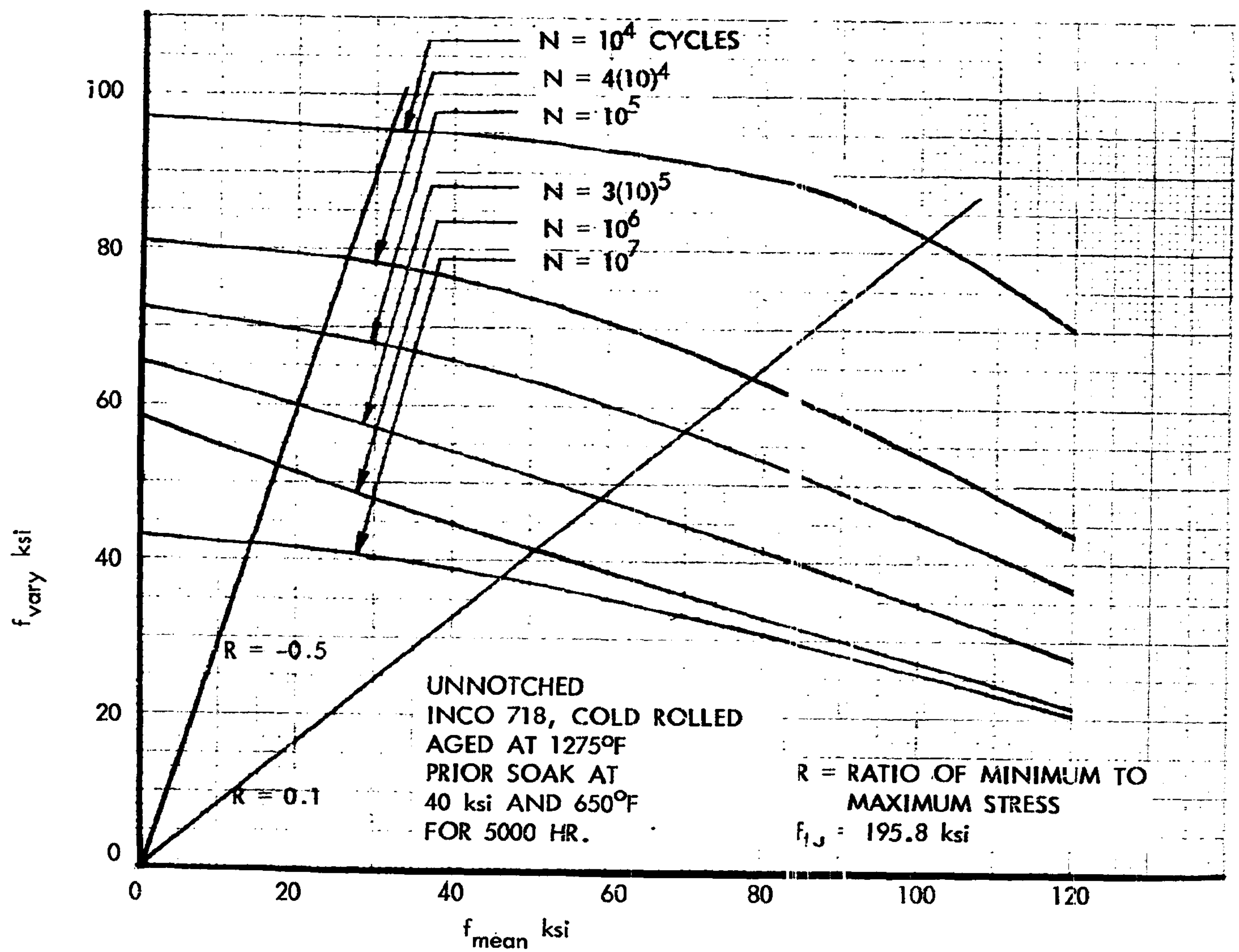


Figure 399. S-N Diagram at 650°F, Unnotched INCO 718

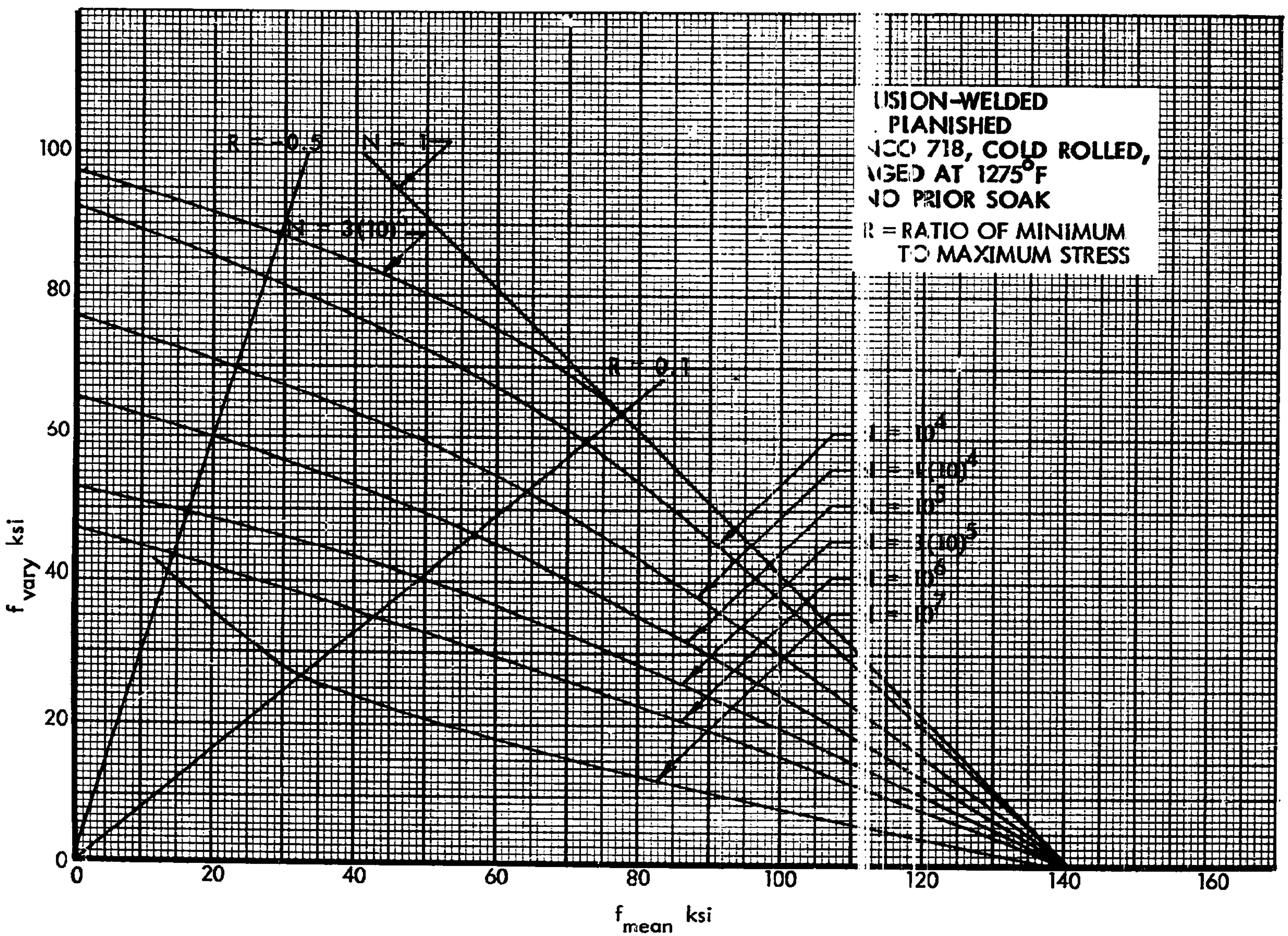


Figure 400. S-N Diagram at Room Temperature, Fu 'cn-Welded INCO 718

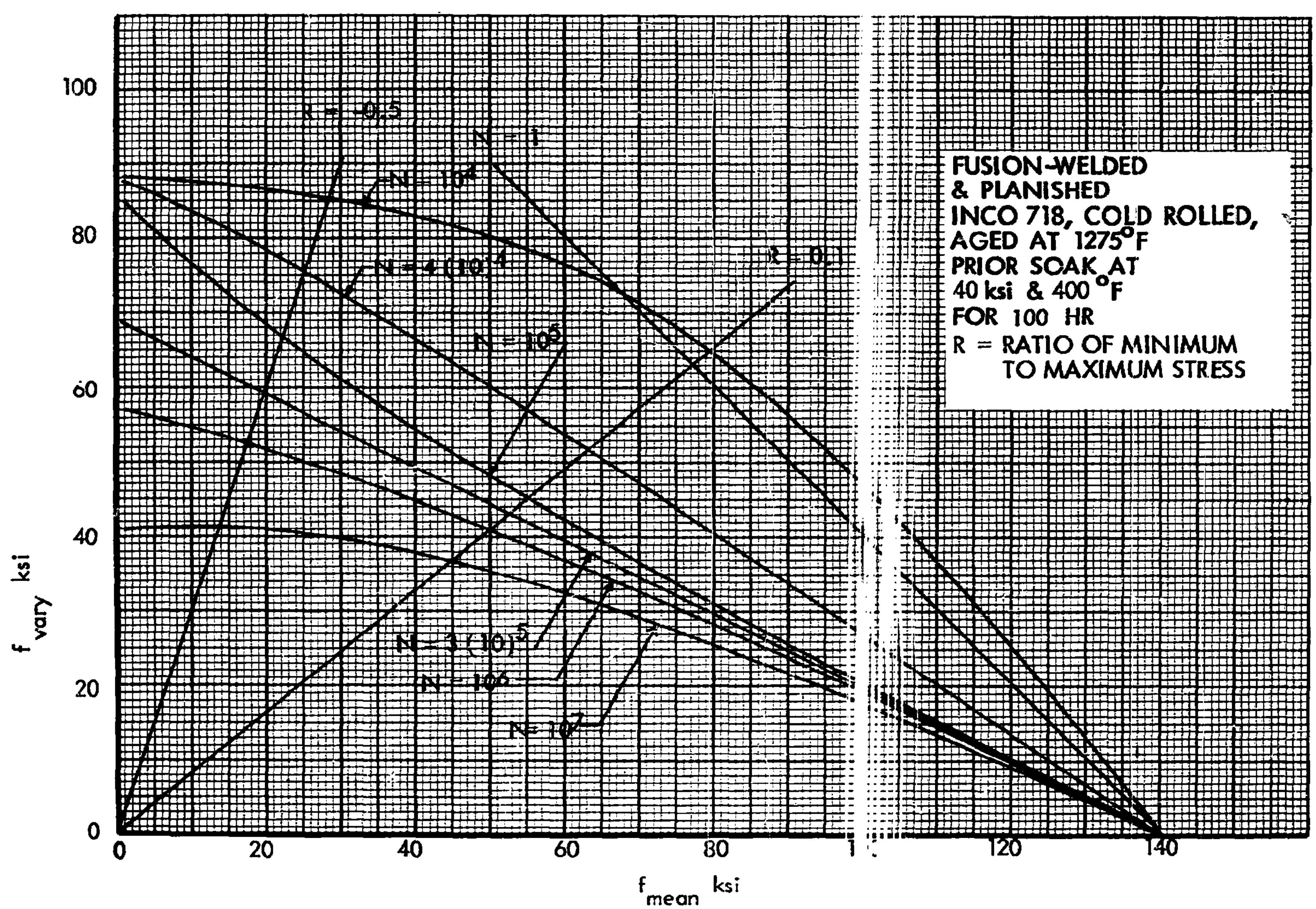


Figure 401. S-N Diagram at Room Temperature, Fusion-Welded INCO 718

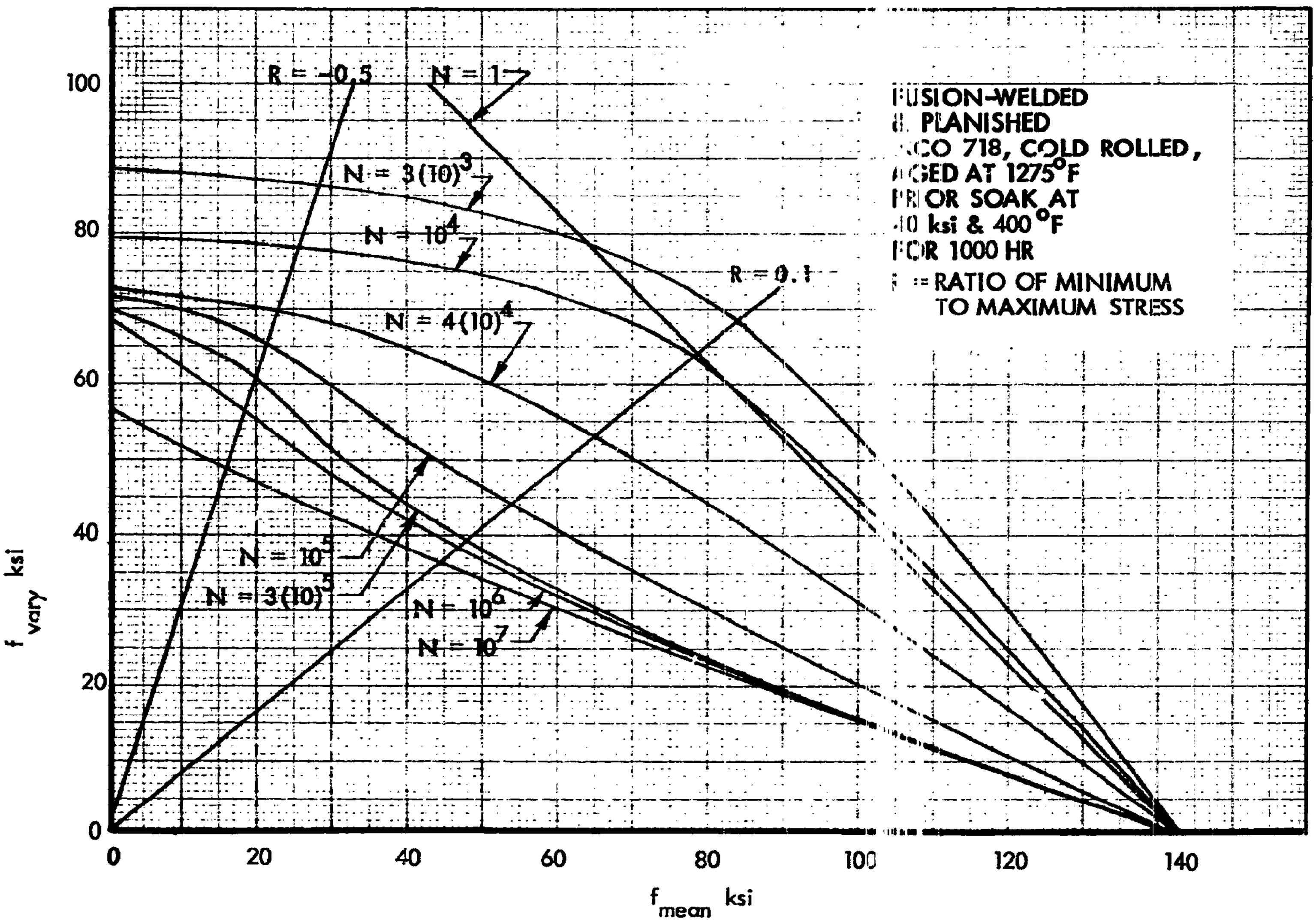


Figure 402. S-N Diagram at Room Temperature, Fusion-Welded INCO 718

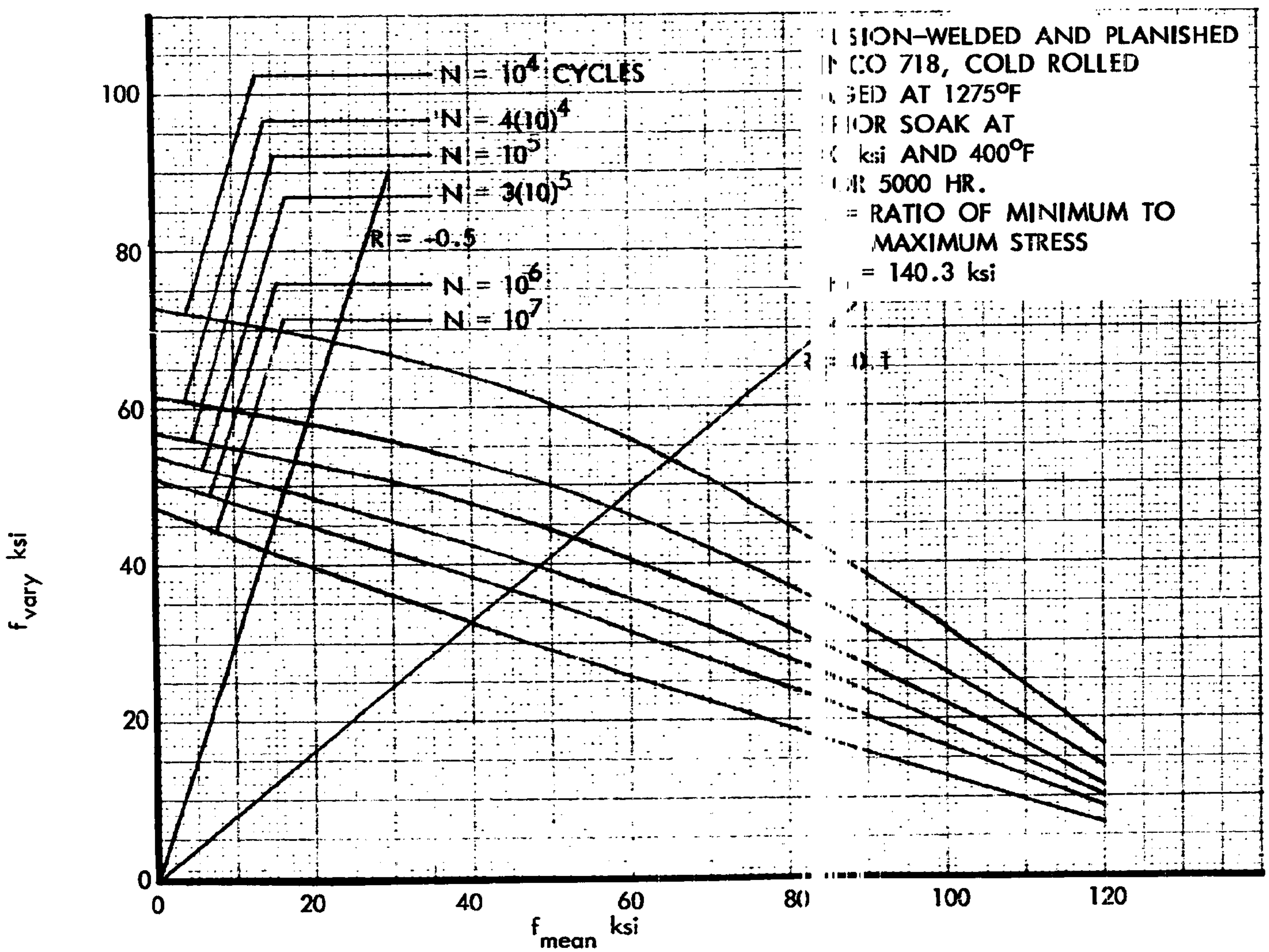


Figure 403. S-N Diagram at Room Tempera ure, Fusion-Welded INCO 718

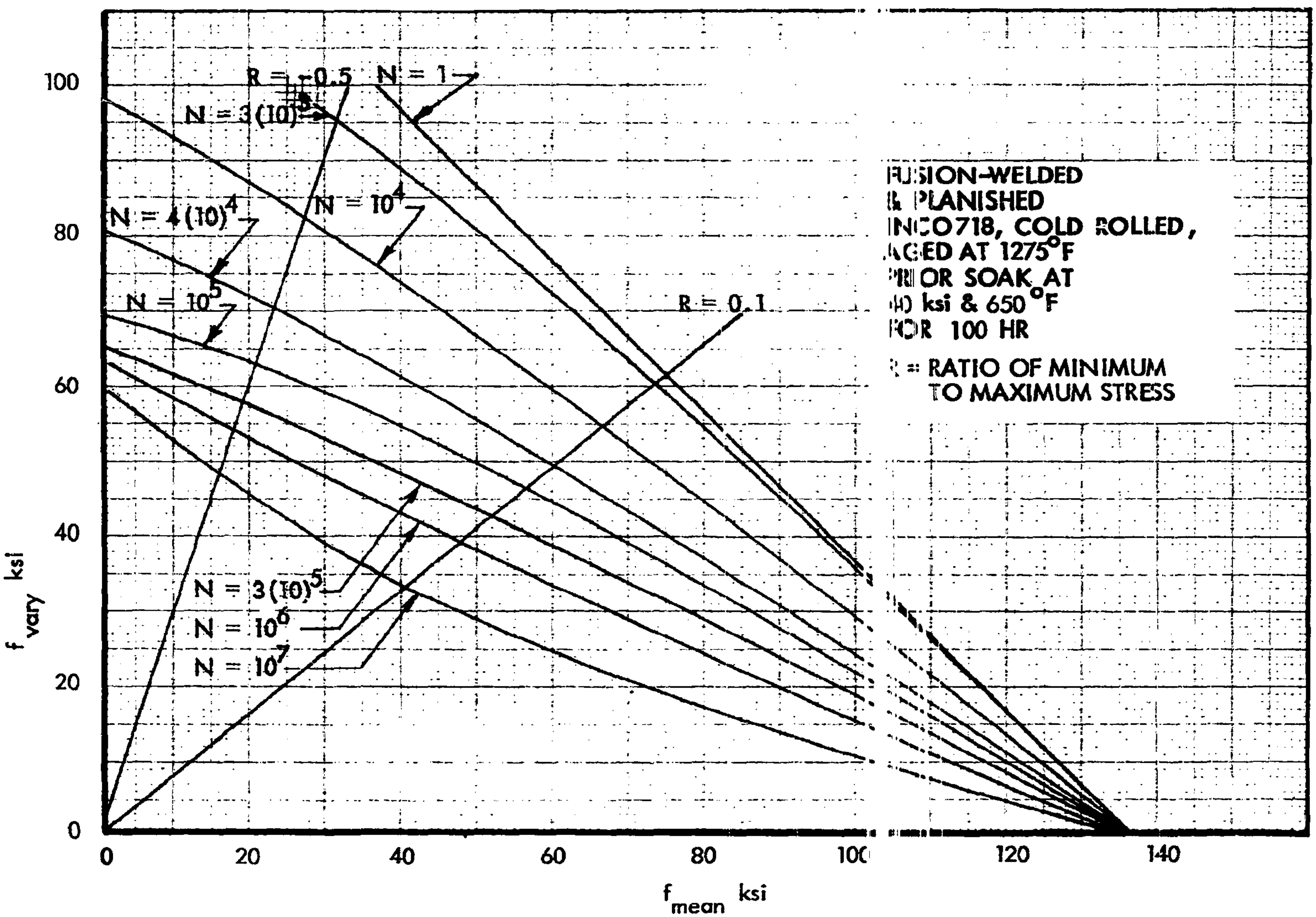


Figure 404. S-N Diagram at Room Temperature, Fusion-Welded INCO 718

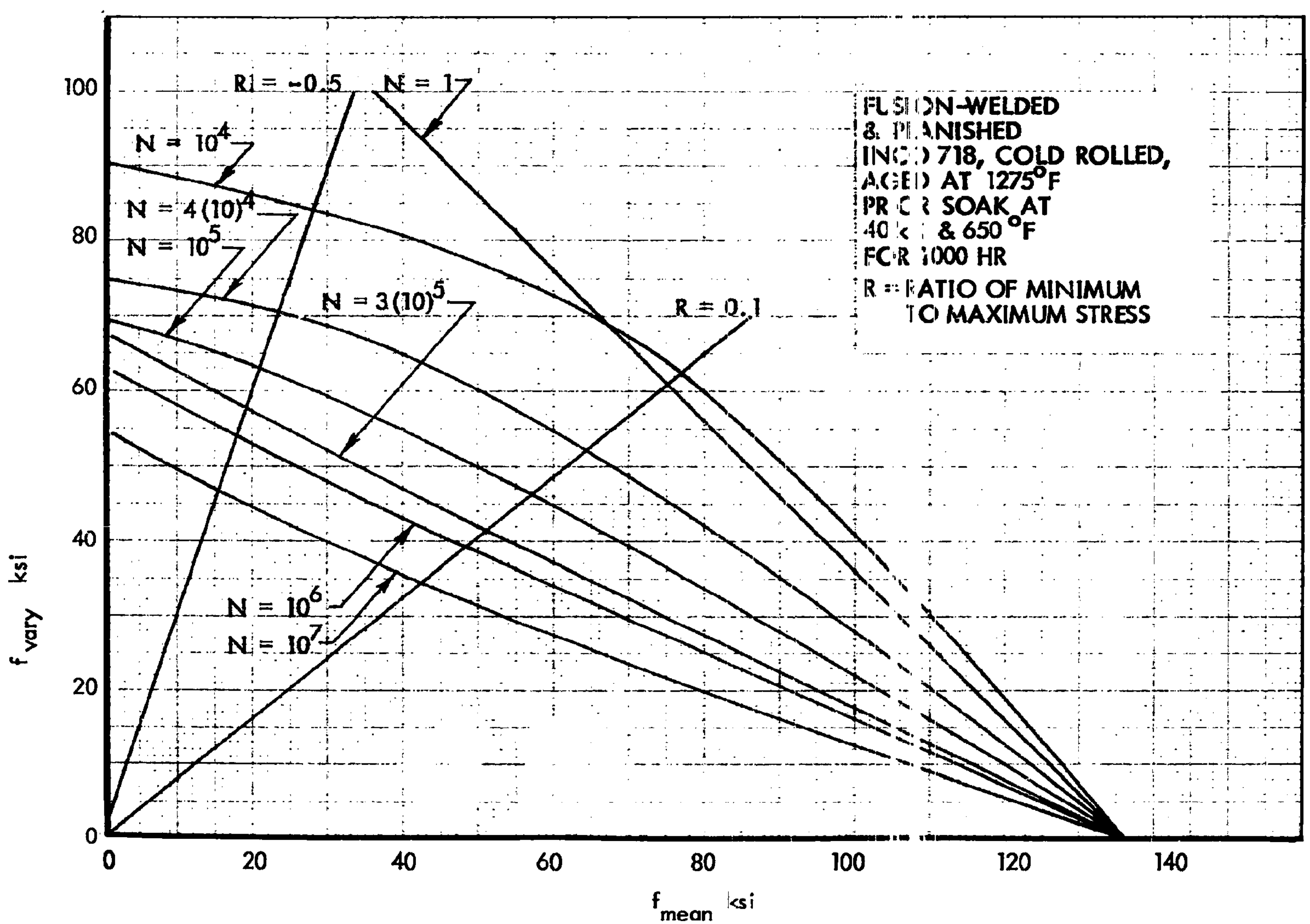


Figure 405. S-N Diagram at Room Temperature, Fusi n-Welded INCO 718

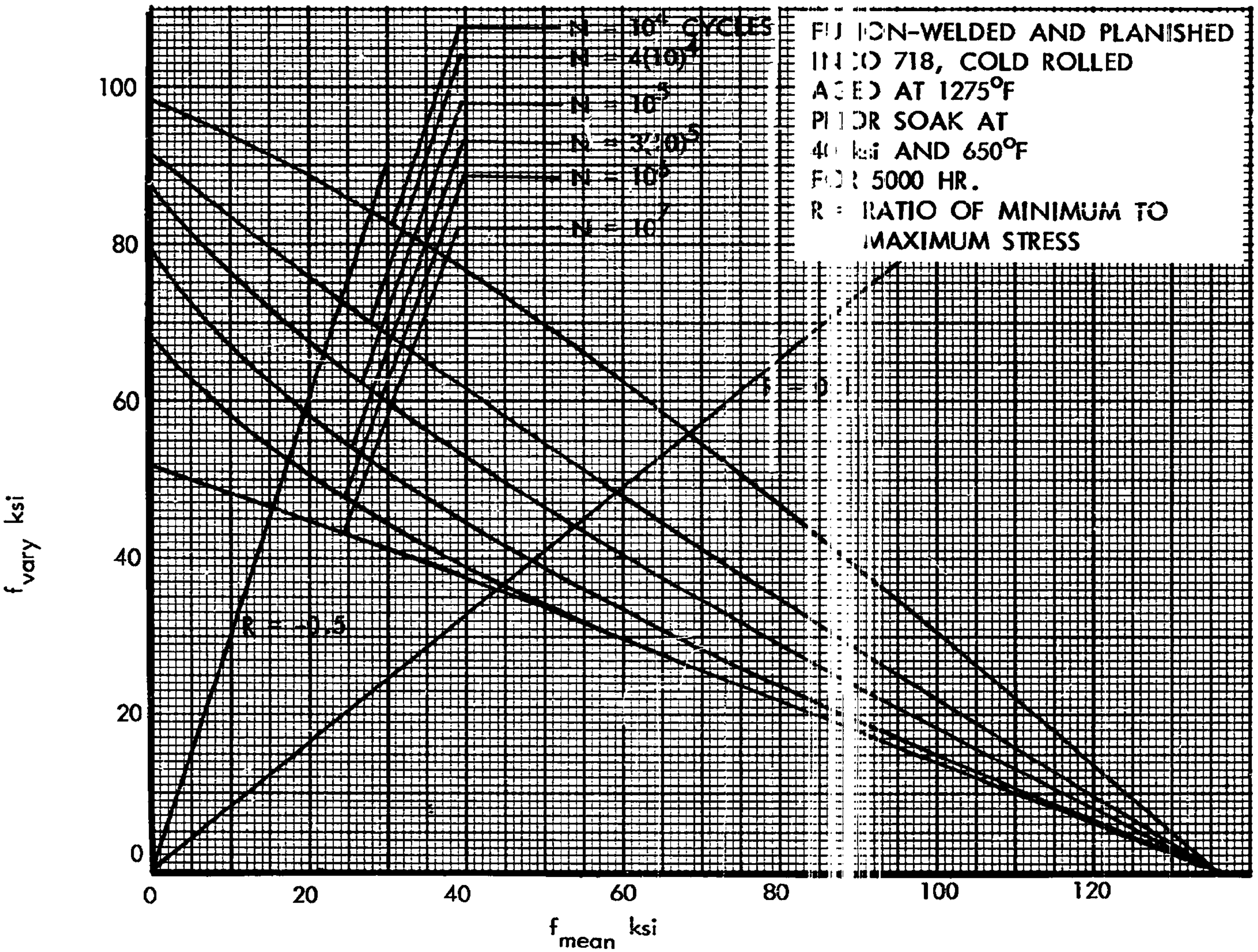


Figure 406. S-N Diagram at Room Temperature, Fusion-Welded INCO 718

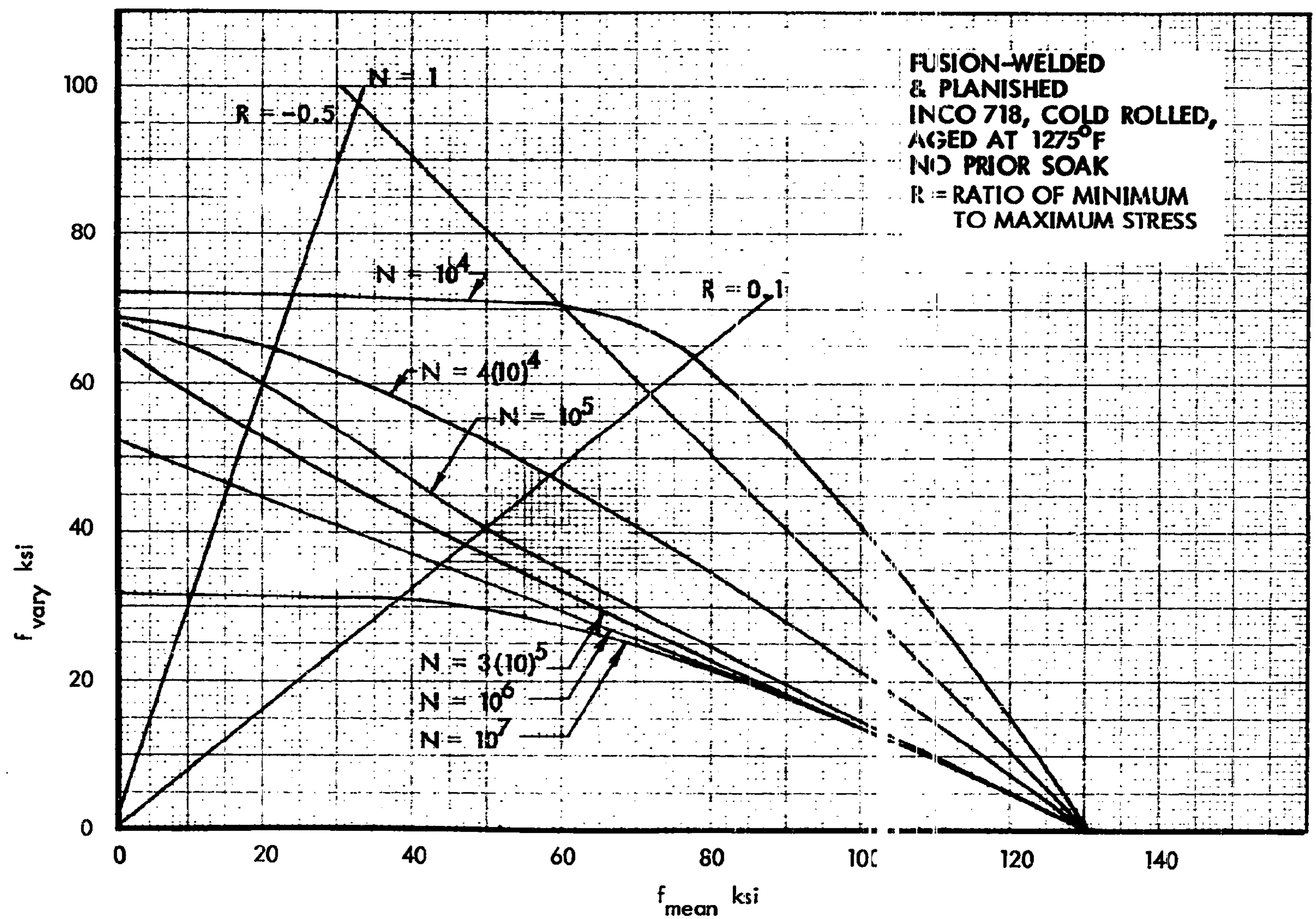


Figure 407. S-N Diagram at 400°F, Fusion-Welded INCO 718

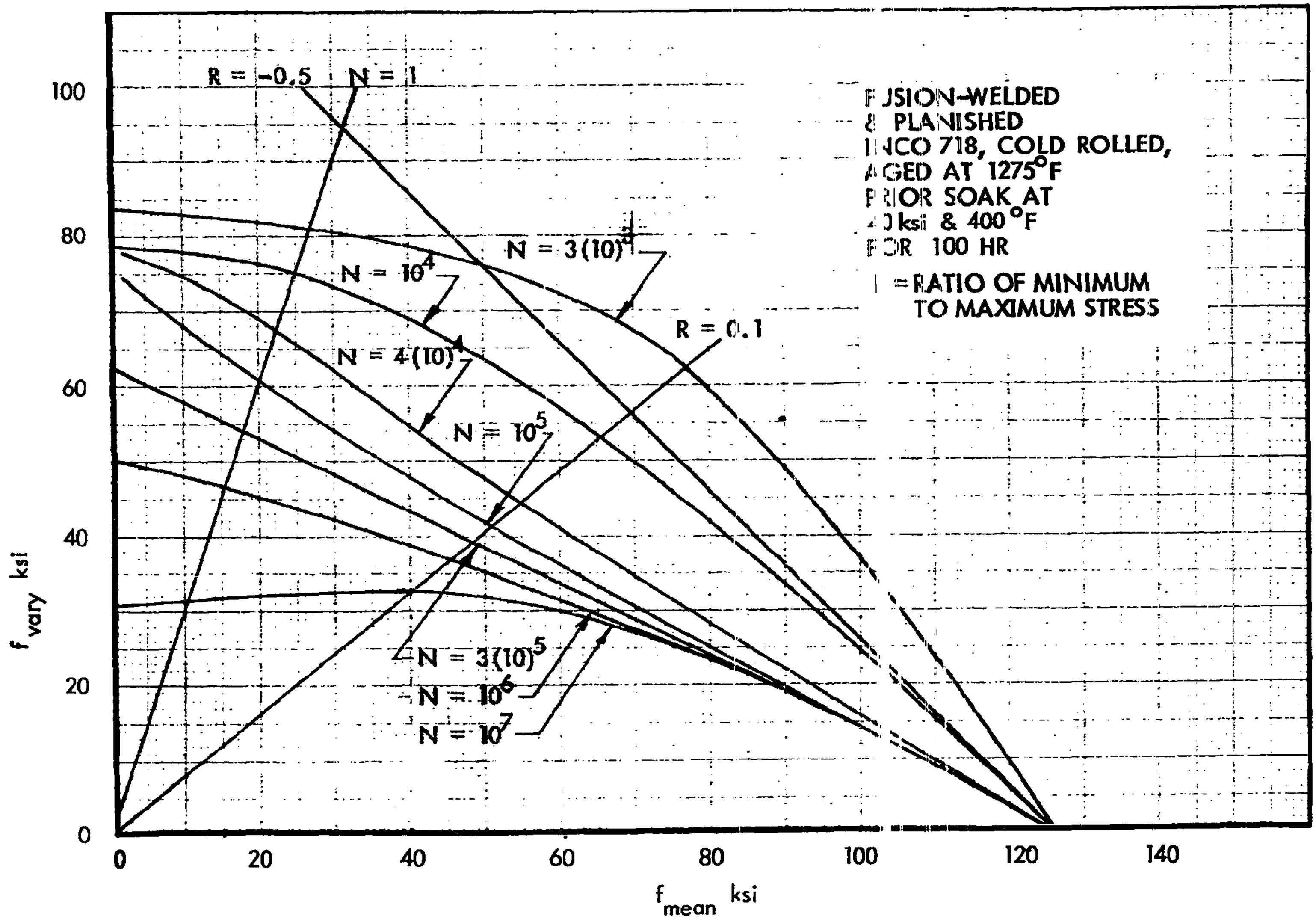


Figure 408. S-N Diagram at 400°F, Fusion-Welded INCO 718

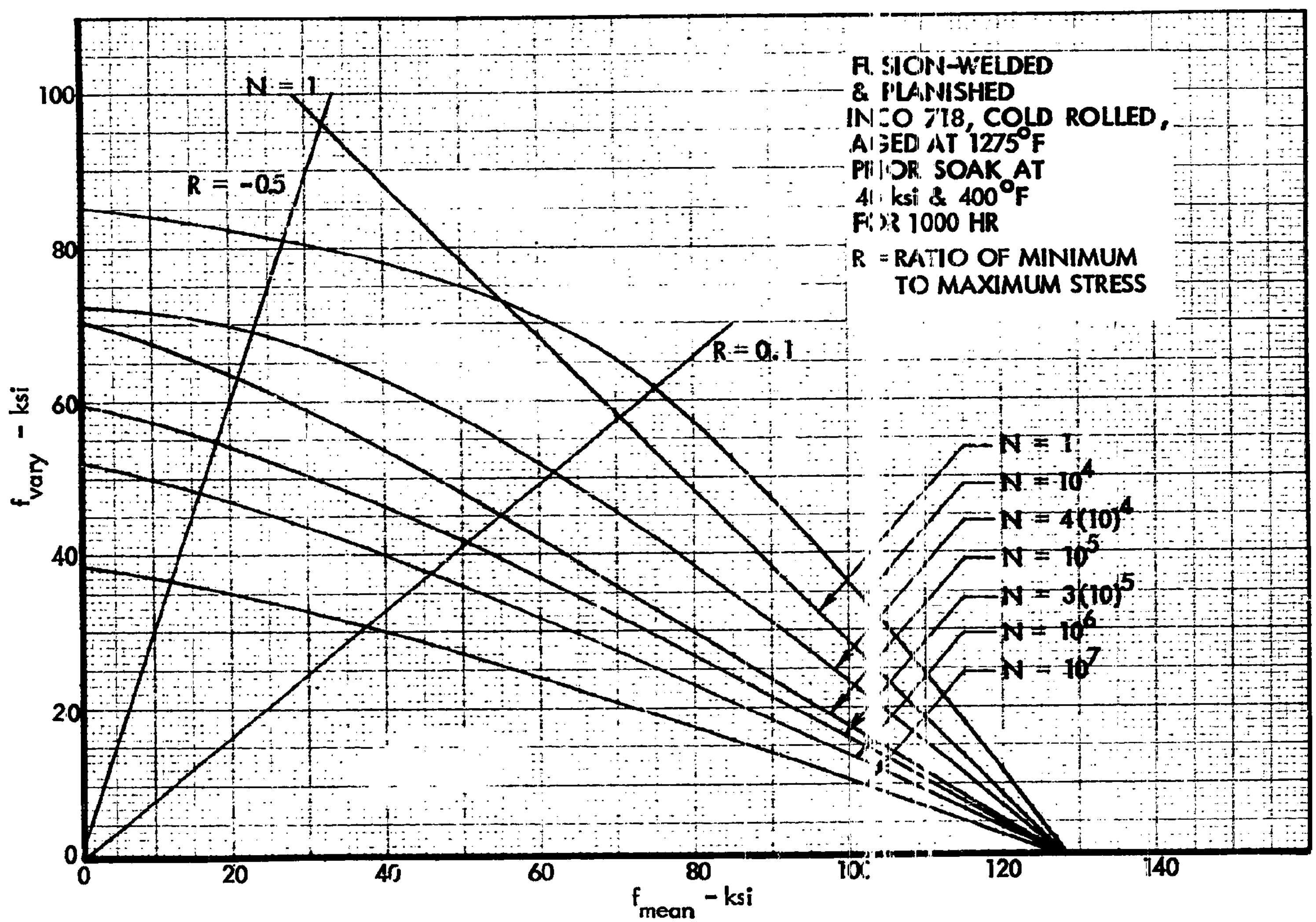


Figure 409. S-N Diagram at 400°F, Fusion-Welded INCO 718

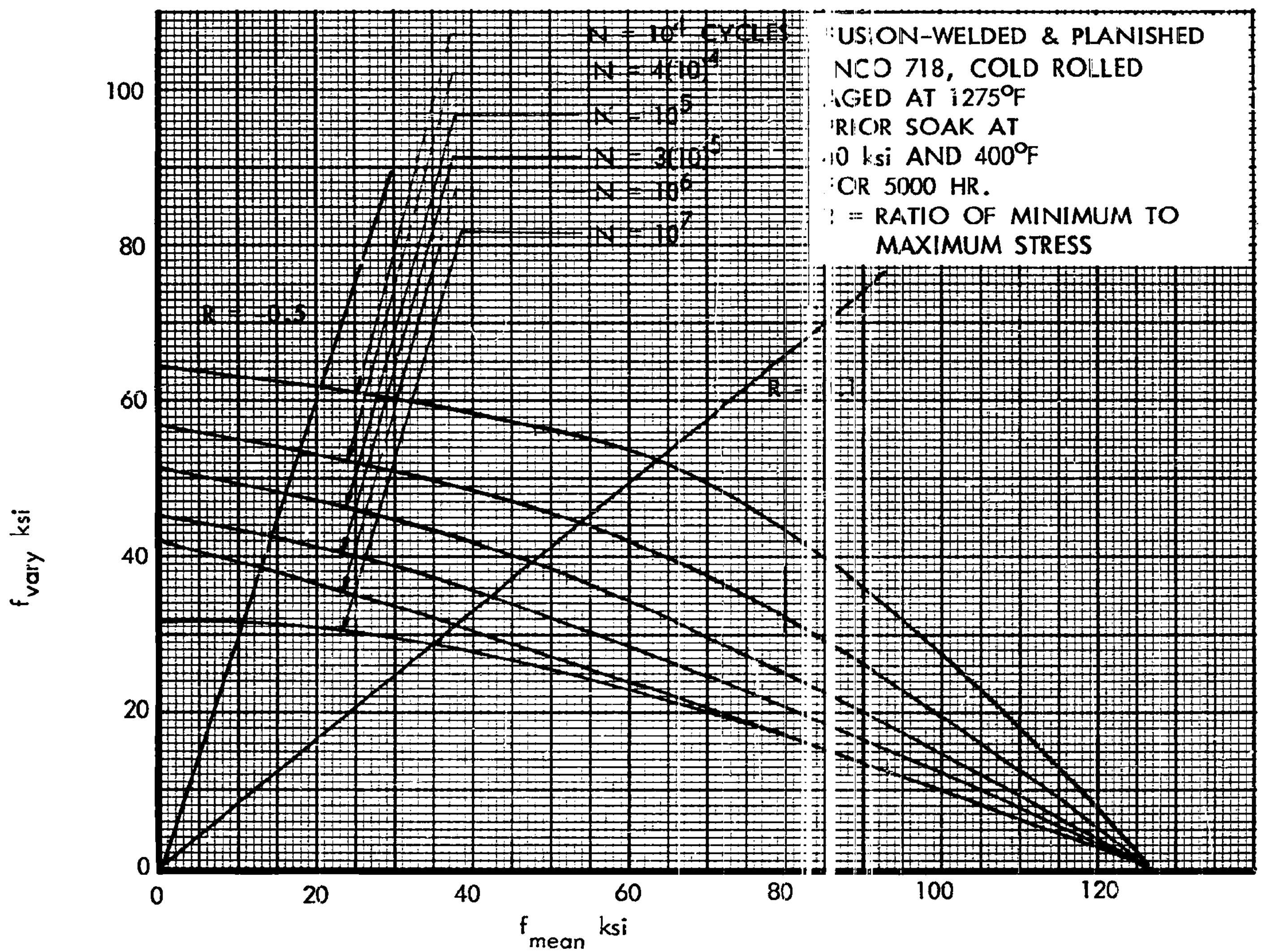


Figure 410. S-N Diagram at 400°F usion-Welded INCO 718

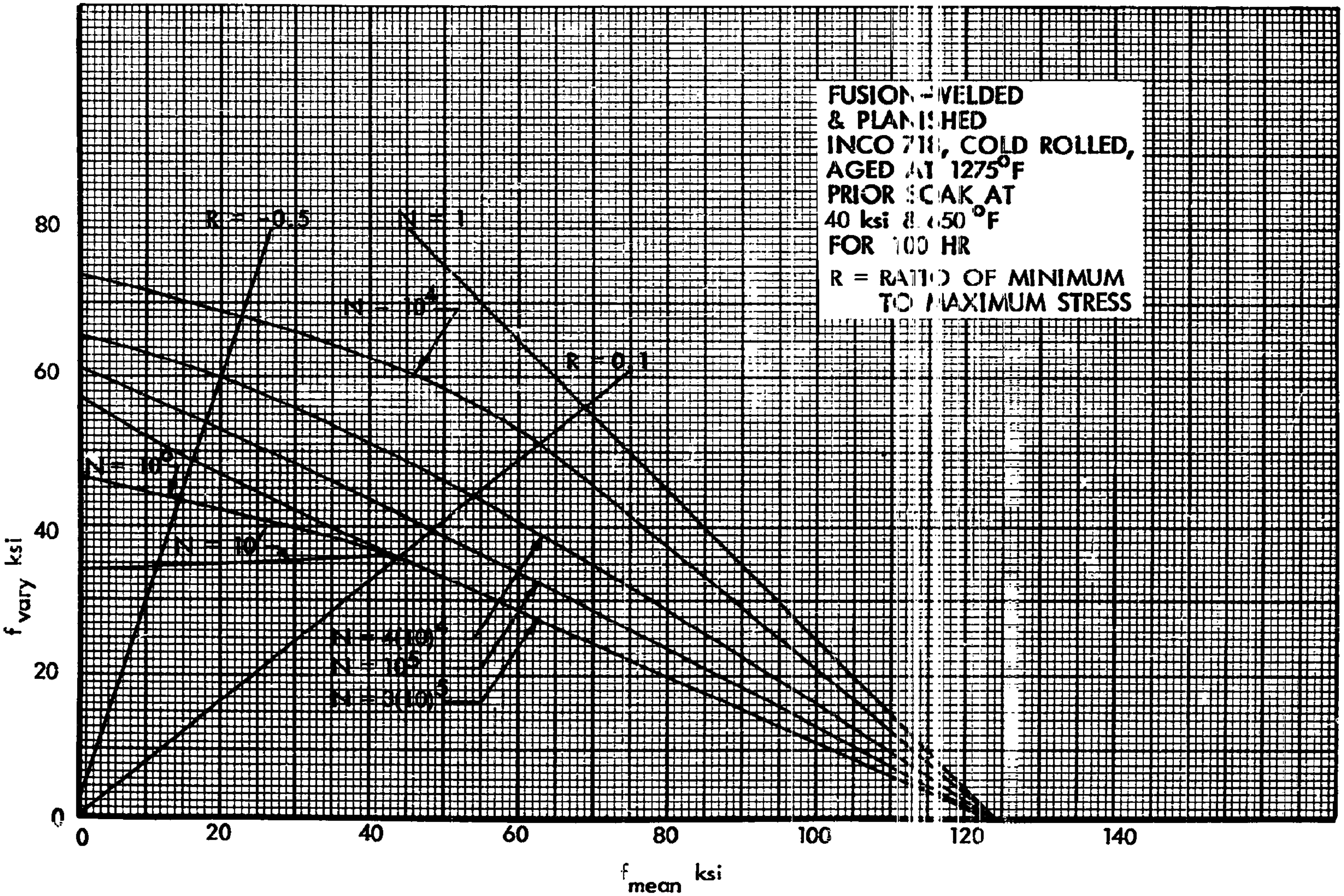


Figure 411. S-N Diagram at 400°F, Fusion-Welded INCO 718

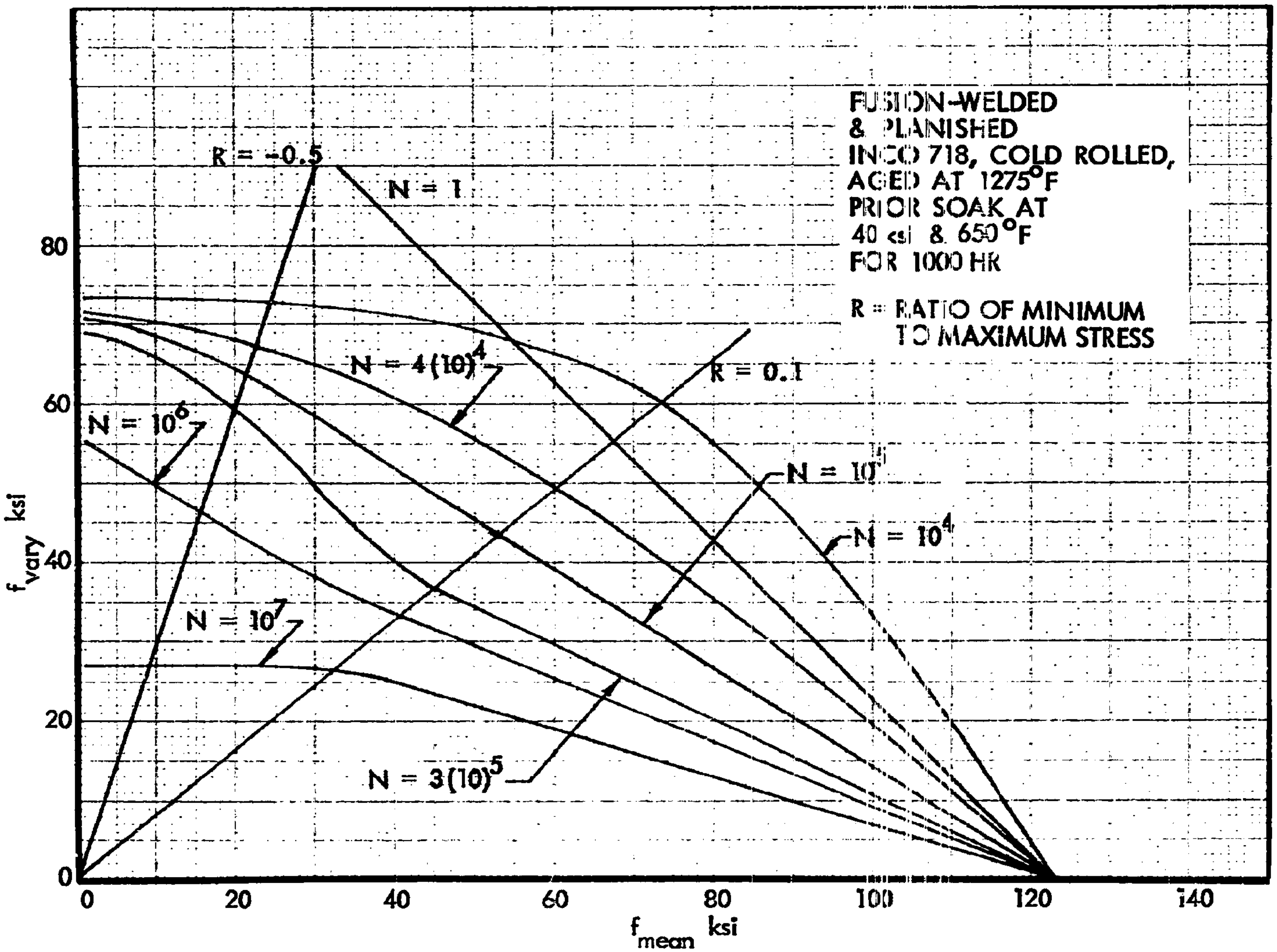


Figure 412. S-N Diagram at 400°F, Fusion-Welded INCO 718

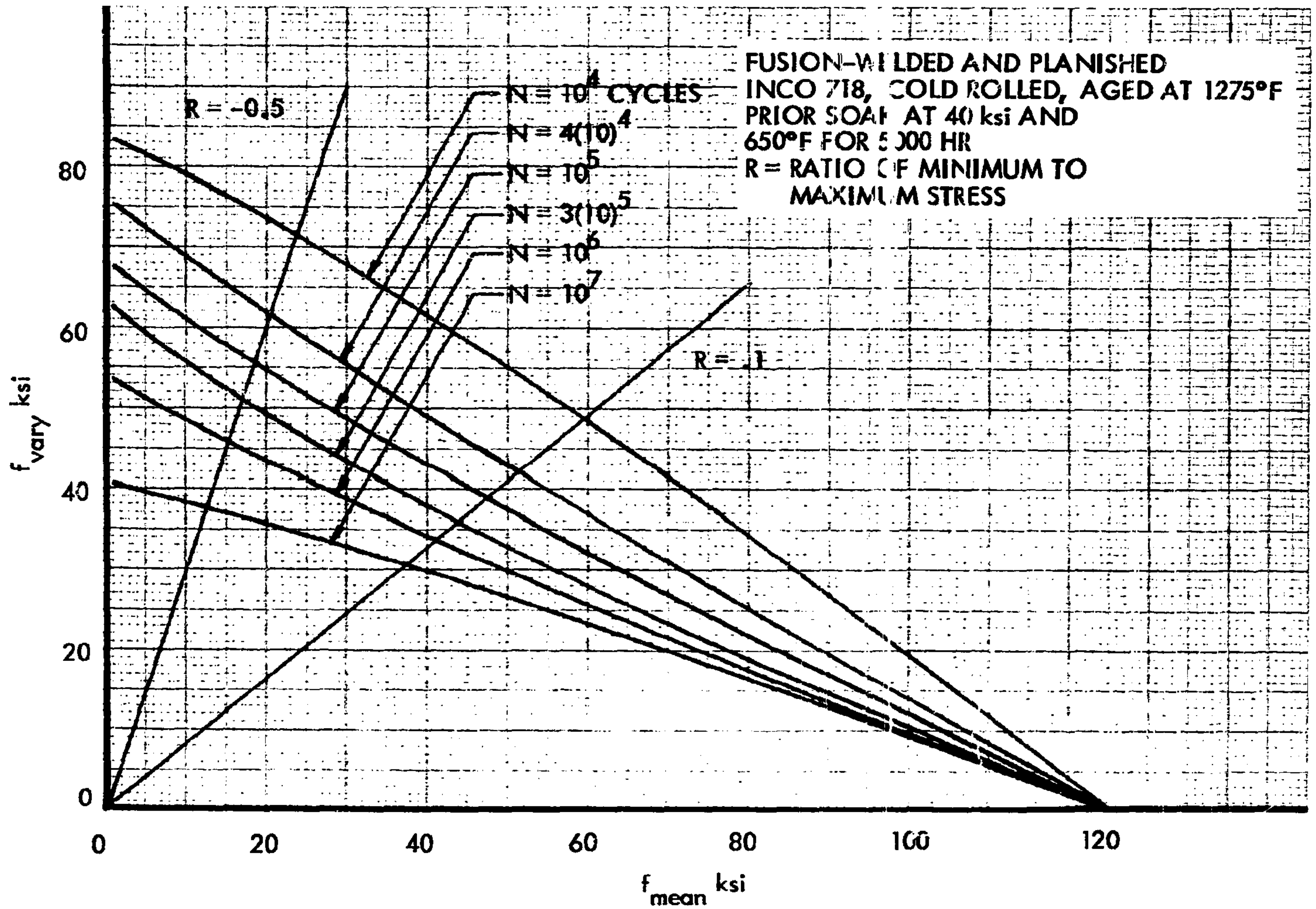


Figure 413. S-N Diagram at 400°F, Fusion-Welded INCO 718

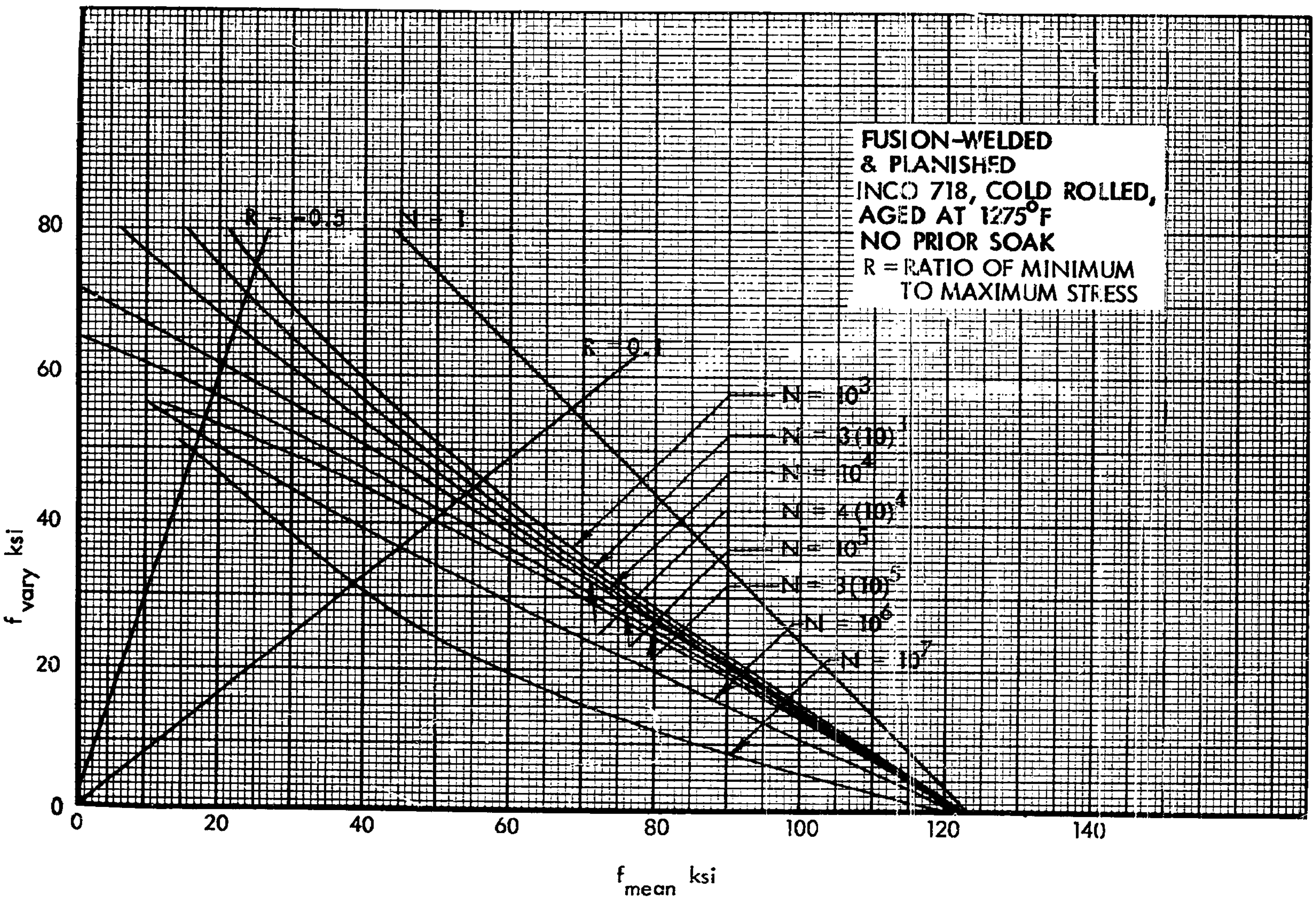


Figure 414. S-N Diagram at 650°F, Fusion-Welded INCO 718

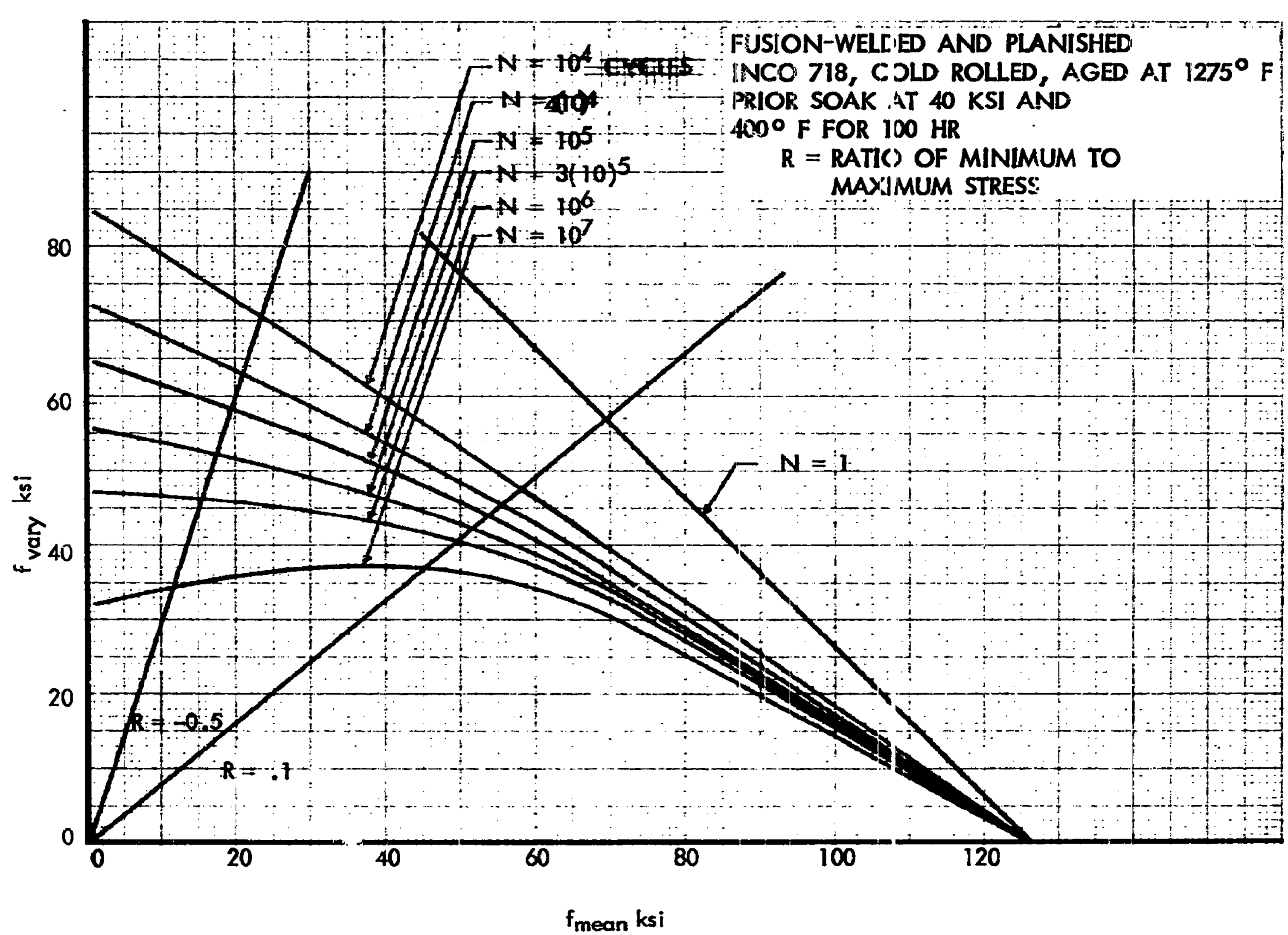


Figure 415. S-N Diagram at 650°F, Fusion-Welded INCO 718

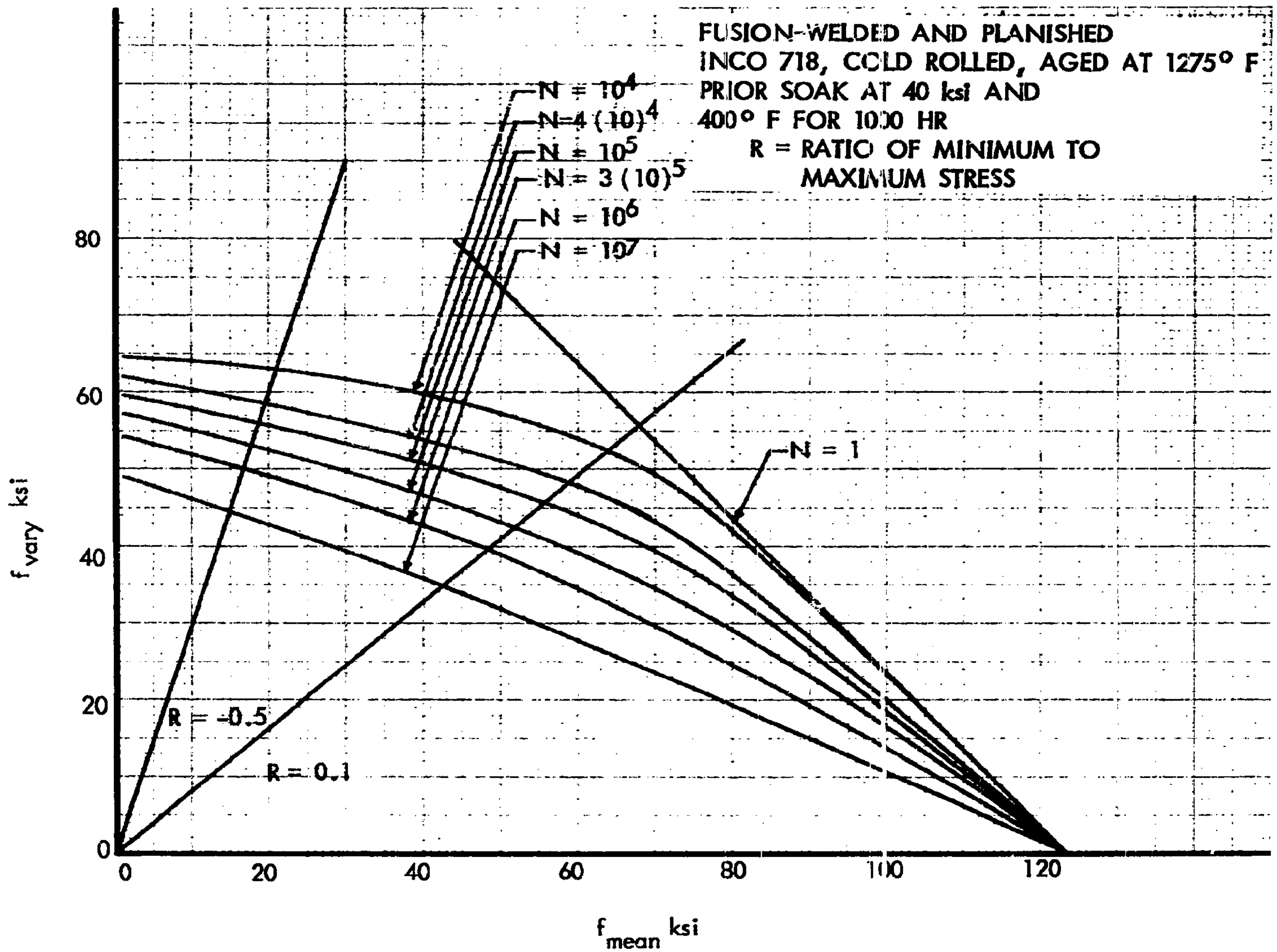


Figure 416. S-N Diagram at 650°F, Fusion-Welded INCO 718

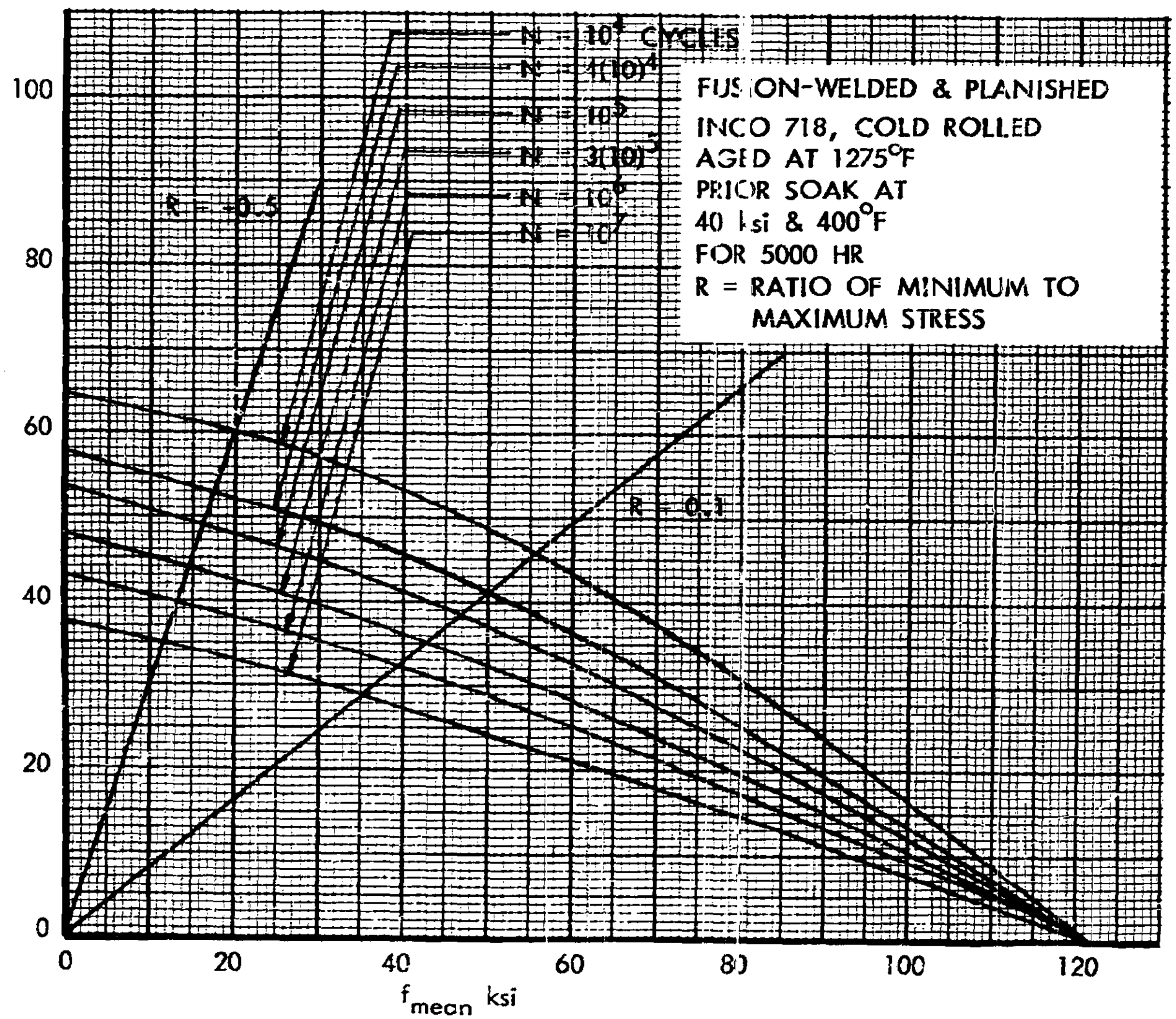


Figure 417. S-N Diagram at 650°F, Fusion-Welded INCO 718

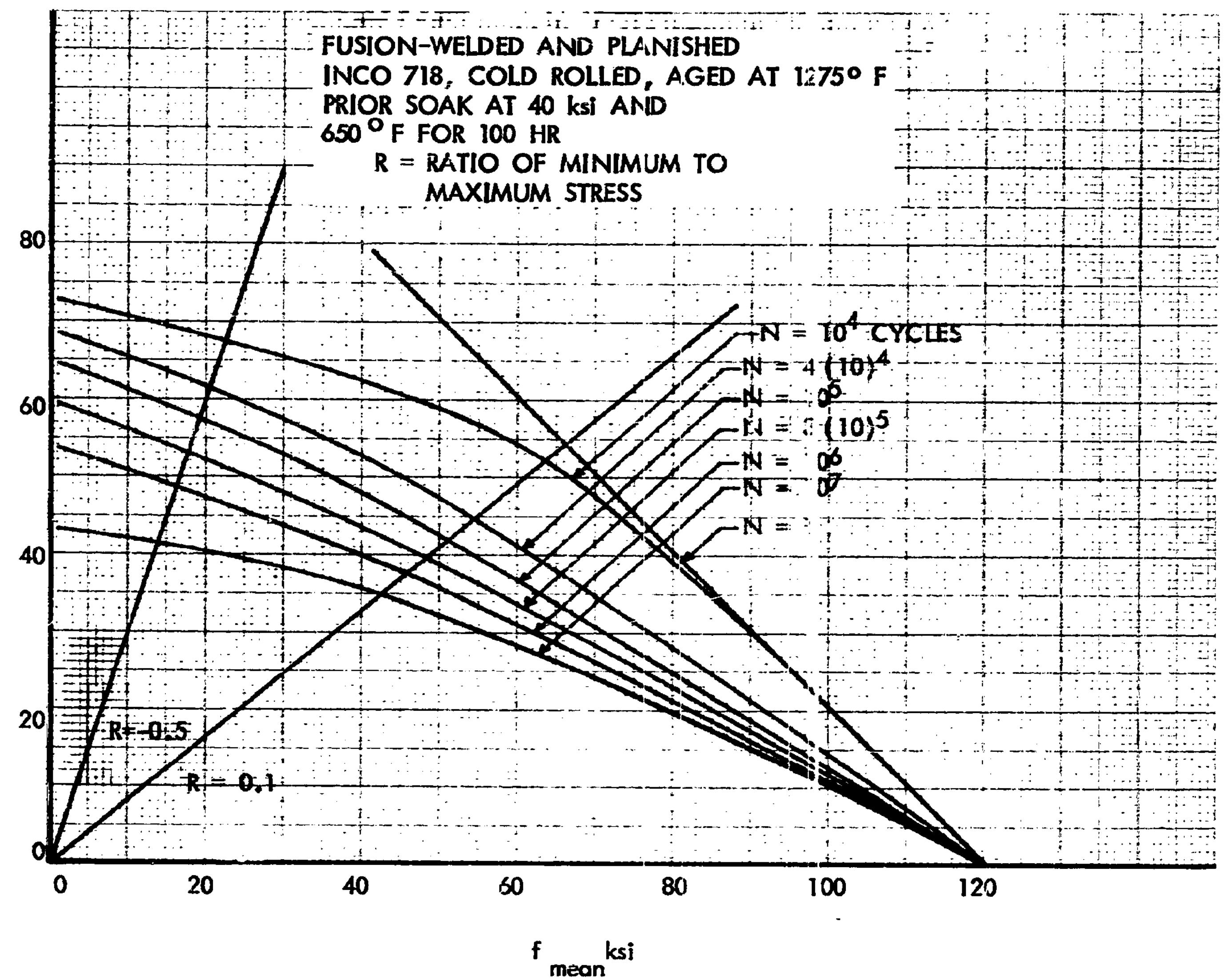


Figure 418. S-N Diagram at 650°F, Fusion-Welded INCO 718

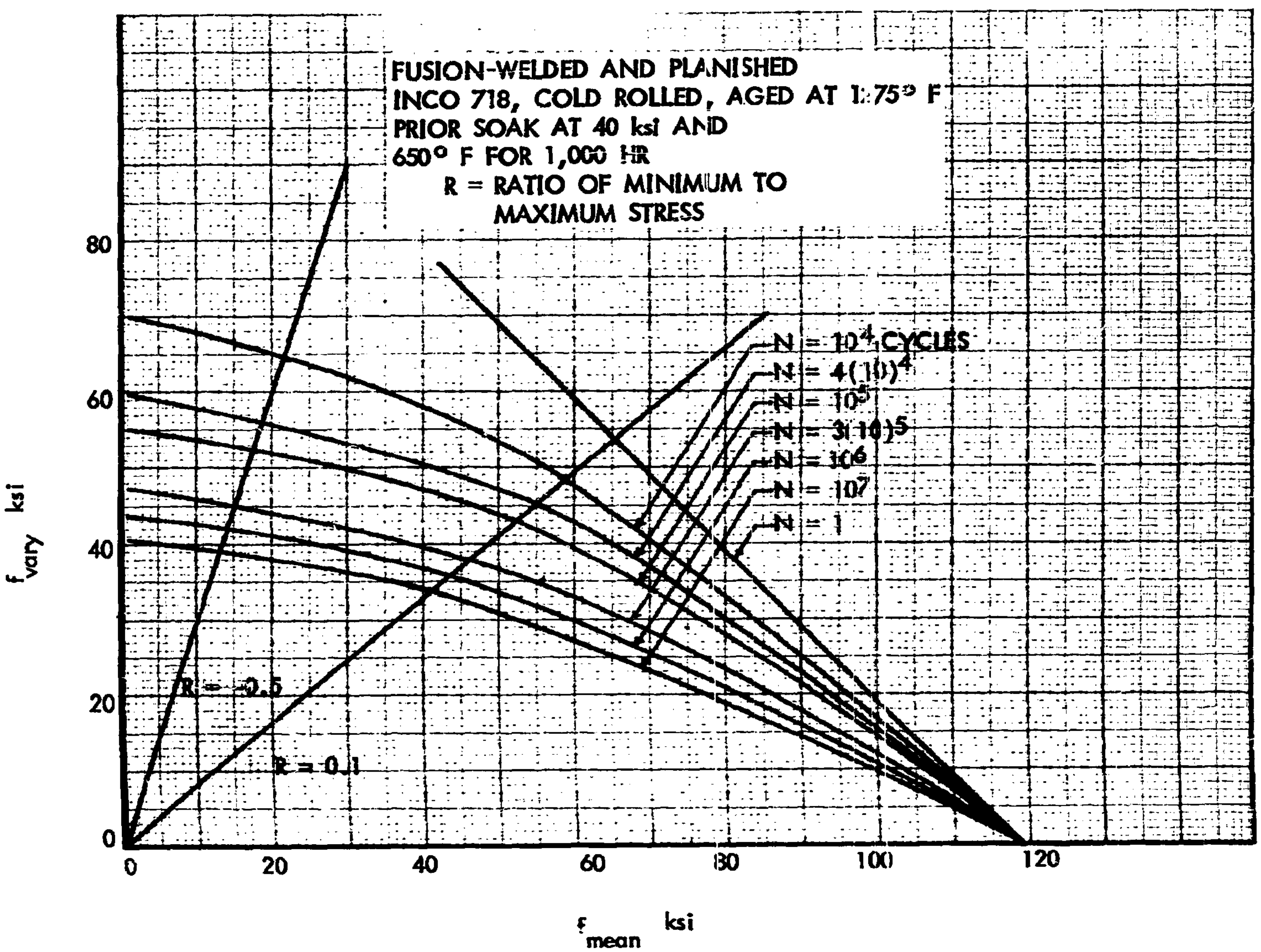


Figure 419. S-N Diagram at 650°F, Fusion-Welded INCO 718

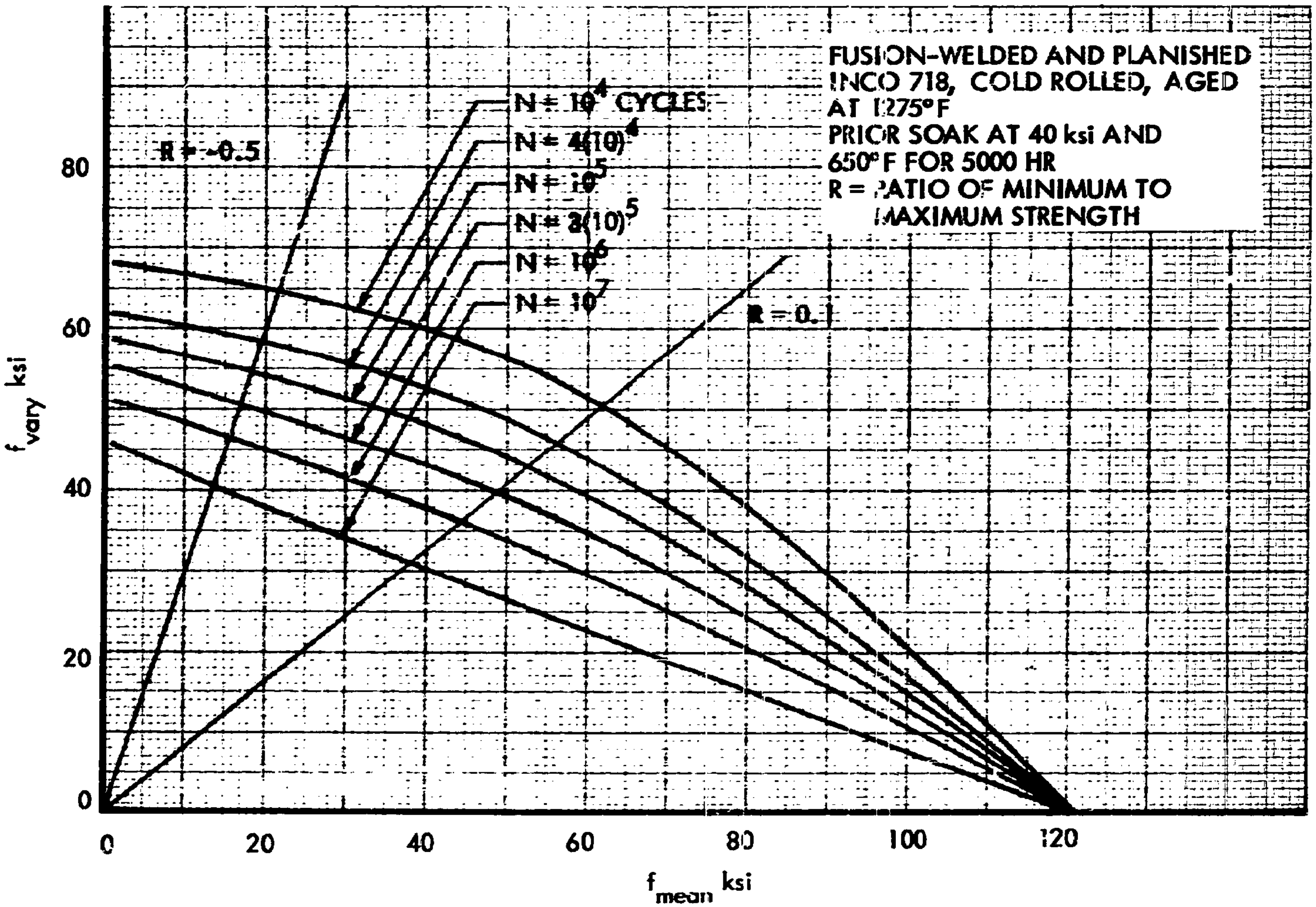


Figure 420. S-N Diagram at 650°F, Fusion-Welded INCO 718